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### COLUMBUS GARBAGE REDUCTION PLANT

First Municipally Constructed Reduction Plant in the World—Sixty Tons Capacity—Reason for Adopting This Process—Collecting and Transporting Outfit and Reduction Plant to Cost \$300,000

THE first garbage reduction plant built wholly new by any city for its own use is approaching completion at Columbus, Ohio. The plant is a part of a complete system of municipal collection and disposal about to be installed from the proceeds of an issue of \$290,000 of bonds. The controlling consideration in the choice of reduction as a method of disposal of garbage was the fact that Columbus is located in the natural gas country and that natural gas is the principal fuel for domestic use. Consequently, domestic ashes rich in carbon, which figure largely in the economy of incinerating plants, form but a small part of the refuse in Columbus. What ashes there are are disposed of by private collectors in low lots along the river.

At a central location in the city, on Mound Street, near the Scioto River, a loading station for garbage has been built from which garbage will be shipped in four cars over  $3\frac{1}{2}$  miles of the Hocking Valley Railroad tracks to the reduction plant. At this same location a municipal stable will be built later on. Special garbage wagons with iron bodies placed on Studebaker frames will be used for collection. The loading station is 90 feet long and 40 feet wide. Cars run through the building under a loading platform, to which wagons approach by a 6 per cent grade to a height of 15 feet above the street. The cars, manufactured by Arthur Koppel, Pittsburg, are of 40 tons capacity each.

The garbage reduction plant, of 60 tons daily capacity, is located  $3\frac{1}{2}$  miles south from the loading station, on a portion of the ground purchased by the city for the use of its sewage disposal plant. This is in a low-lying agricultural section, sparsely populated, where disagreeable odors are not liable to create any serious nuisance. The plant consists of two red-brick buildings with stone trimmings of an attractive appearance, differing in this respect from most other reduction plants in the country. The smaller building is for unloading purposes exclusively. Cars are to be run in on the upper story and their contents dumped into hoppers below, from which the garbage is carried by a scraper elevator to the upper floor of the reduction building.

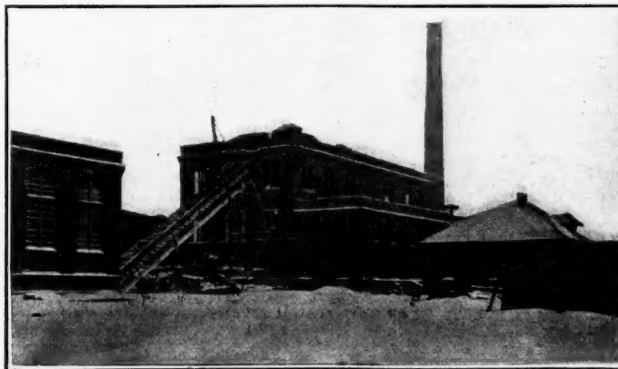
The heads of eight digestors, 10 tons capacity each, made by the Coatesville Boiler Works, Coatesville, Pa., project a few feet above this floor. They are each 7 feet in diameter and 14 feet in height, of straight shell and built for a working steam pressure of 125 pounds.

They are provided at the top with 18-inch diameter charging doors, and at the bottom with 18-inch discharge outlets with substantial gate valves. The steel plates of which the digestors are built are  $\frac{3}{8}$  inch in thickness. After the garbage is loaded into the digester it is not again exposed until it emerges as a finished product. This arrangement and the separate unloading building are the distinctive features of the plant.

After the garbage has been cooked or digested for a period of about eight hours by the direct action of the steam, the digestors are discharged, one at a time, onto an Edgerton continuous roller press, of which there are two, built by the Kutztown Foundry & Machine Company. The whole press is enclosed in a tight sheet-iron housing so that there is no escape of objectionable gases. There is an upper and a lower belt. The upper belt, narrower than the lower, receives the cooked garbage and distributes it to the main belt. Some of the garbage drops over the edge of the narrow belt, but most of it is carried to the end, where a chute delivers it to the lower belt, on which the pressing is done. This belt is a band of thin steel, perforated, and forms the filter bed. Rollers bear on this belt, which are provided with especially designed adjustable springs which transmit to the rolls the required pressure and relieve sudden shocks. A brake arrangement prevents the sudden breaking of the machine should some solid foreign substance find its way to the rolls.

From the press the garbage goes to a series of driers, one a Peck drier and the other two Bartlett and Snow driers. The Peck drier is a cylinder 30 feet long, 5 feet in diameter, steam-jacketed the whole length, with breeching at the rear end in which are located heating coils consisting of about 220 feet of steam pipes, through which air is forced as it enters the cylinder proper. The inside of the drier is divided into four series

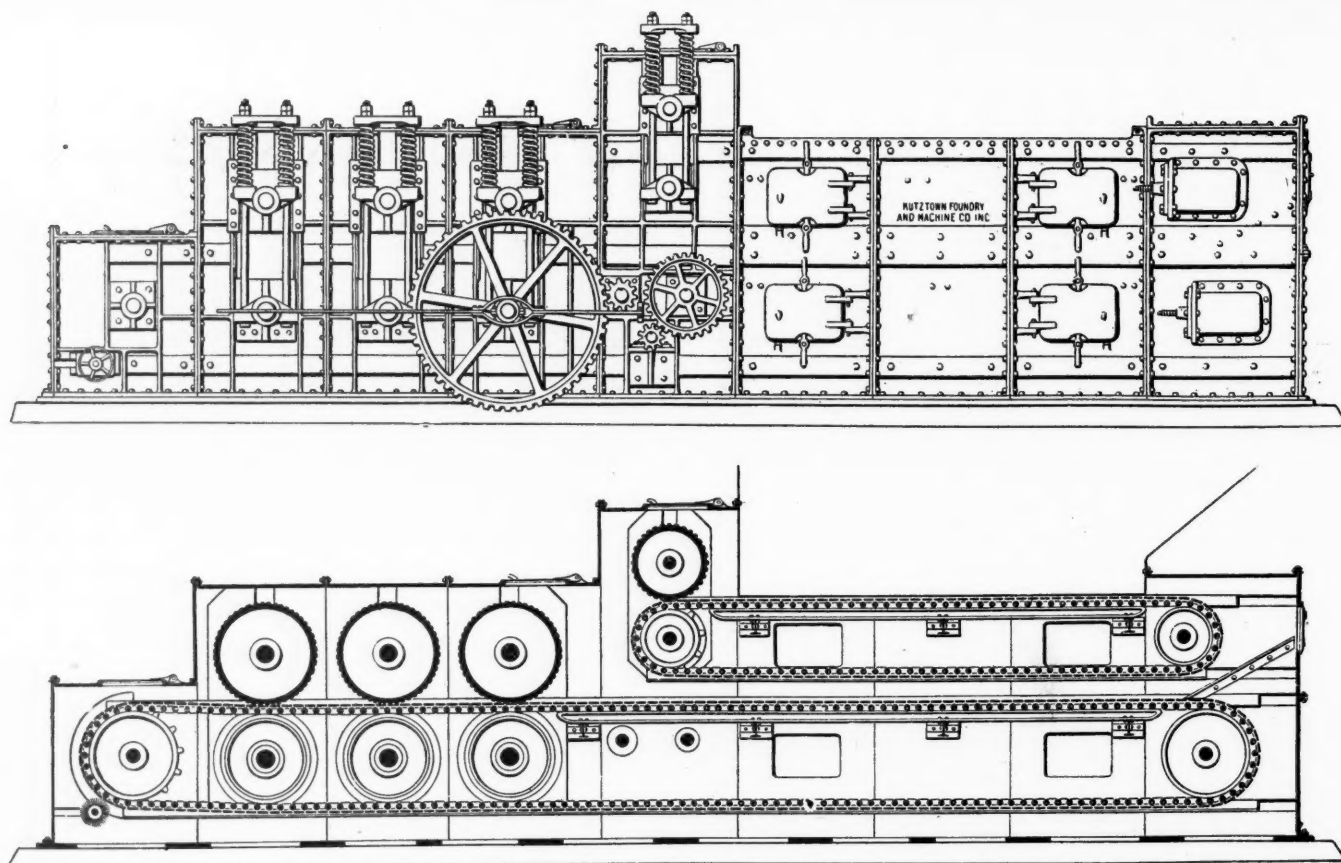
of lifting angles which continually lift and cascade the material, allowing it to come in contact with heated air passing through the cylinder. The Bartlett and Snow driers are cylindrical rotary driers employing the vacuum principle. The vacuum pump used in connection with these is capable of creating a vacuum in the drier of 26 inches. The gases from the drier go through a condenser and then to the stack. The tankage as it comes from the drier is in condition to be marketed as fertilizer.



Unloading  
Building

Reduction  
Building

General View of Garbage Reduction Plant of Columbus, Ohio



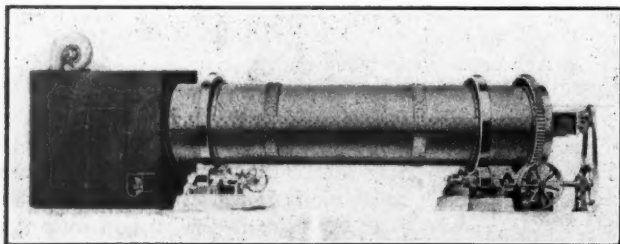
SIDE ELEVATION AND LONGITUDINAL SECTION OF CONTINUOUS ROLLER PRESS

The liquor from the presses goes to a battery of tanks, six of which are for separating and two for refining. They are identical in construction, but have different pipe connections and are used in different ways. The grease, after separation, is run over to four storage tanks where there is storage capacity for two carloads of 50 tons each. The grease is almost black in color, and is sold to manufacturers who make a specialty of refining and using it for laundry soap. The liquor from which the grease has been extracted still contains some grease, and it is accordingly delivered to a triple-effect evaporator, made by the Zorema Company. In this device, a series of three tanks, a

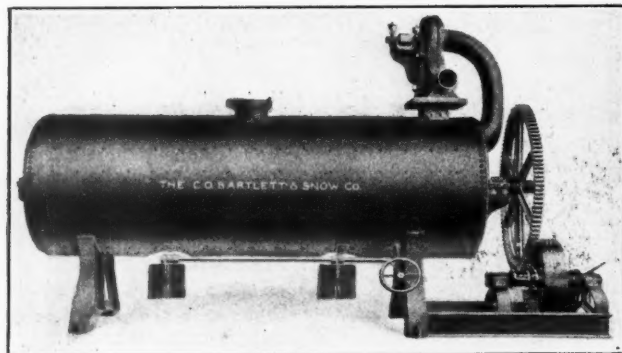
vacuum of 28 inches is maintained in the first tank and lesser degrees of vacuum in the other two. The product of the evaporator is a thick syrup, which is fed back into the revolving driers when they are charged with cooked garbage or tankage.

A high price for grease has prevailed during the past year, so that this is the most valuable product of a reduction plant, being now worth about 6 cents a pound. This has led to a recommendation from I. S. Osborn, engineer in charge of construction, for the installation of machinery for the purpose of treating the garbage with naphtha for the purpose of recovering a larger proportion of grease than would otherwise be possible. By the system of presses described about 2 per cent of grease can be recovered. By the use of naphtha the remainder of the  $3\frac{1}{2}$  or 4 per cent of grease which the garbage contains can be saved. Of the \$175,000 originally allowed for construction of the plant, a sufficient amount, about \$15,000, remains to put in a Peck percolator and other accessories necessary for the use of naphtha. The Peck percolator is similar in design to one which has been in successful use for more than a year at the Cleveland garbage reduction plant. This machine, if installed, will handle the garbage after it has been passed through the

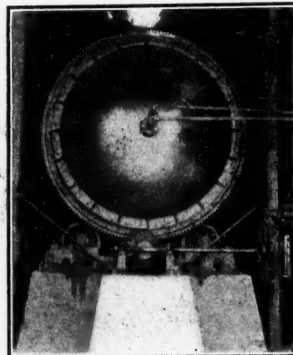
press and dried. The drying process is necessary first, in order that moisture may not interfere with the solvent effects of the naphtha. The Peck drier is a cylinder 14 feet long, 8 feet 6 inches in diameter, which revolves on trunnions, the power being applied by a pinion acting on a large gear around the head of the drier, which is dished. The percolator has blades inside for keeping the dry tankage in motion and exposing it to the action of the naphtha, allowing a mini-



PECK DRYER



BARTLETT &amp; SNOW DRYER



END VIEW OF PERCOLATOR



much amount of the latter to be used. The naphtha is fed into the machine at a temperature of 140 deg. Fahr. After the operation has been completed, live steam is turned in, which drives the solution of grease and naphtha out through openings provided for the purpose located near the periphery of the head. As the cost of naphtha is an important item in the operation, a cast-iron pipe condenser made by the Bartlett & Snow Company will be used to recover the naphtha driven off by heat from the grease. This is simply a series of pipes enclosed in a casing with suitable feeding and discharge connection.

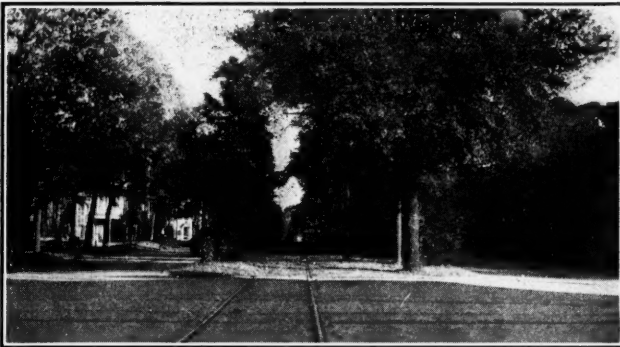
### STREET PARKING

THE use of trees and shrubbery in city streets can be made to add to their attractiveness in many ways, and not alone by the customary line of shade trees along each curb. This is especially the case where the streets are unusually wide and a parking strip can be run down through the center. Savannah, Ga., in this way manages to very largely conceal from the sidewalks the idea of hurry and business embodied in the trolley car; the tracks in a number of streets passing for block after block through the middle of a parkway of trees and shrubbery.

Columbia, S. C., has unusually wide roadways, and a few years ago began improving the somewhat dreary spectacle which many of them presented, with their wide expanse of macadam,



OVERLOOKED OPPORTUNITY FOR BEAUTIFYING THE MAIN STREET OF DANVILLE, VA.



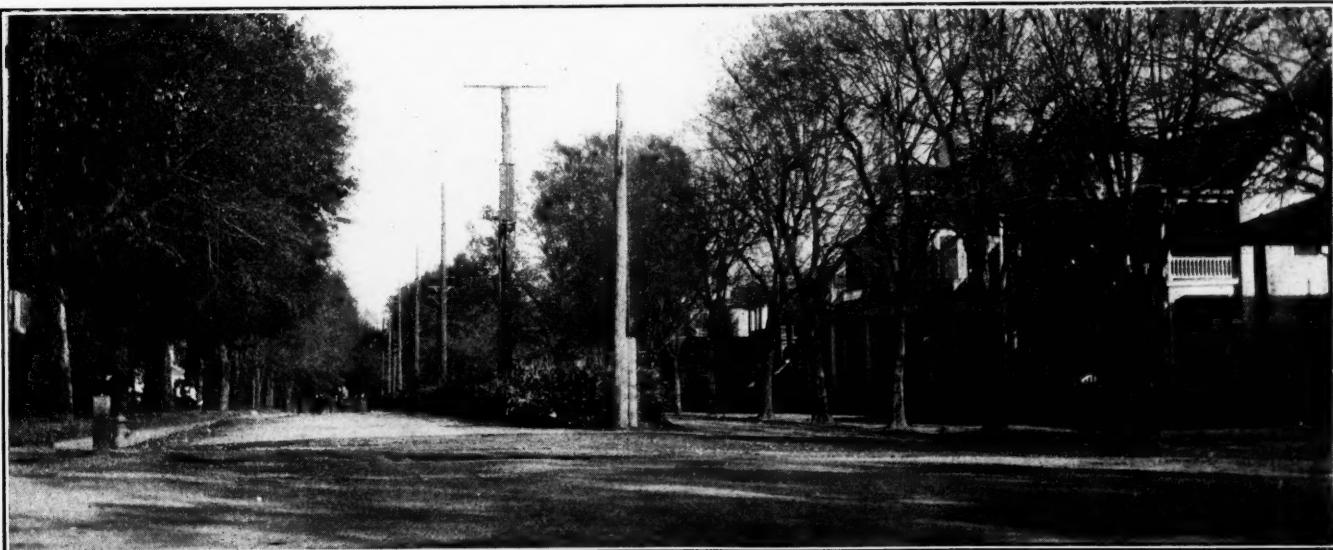
STREET RAILWAY THROUGH PARKWAY, SAVANNAH, GA.

by placing parking strips through the center. The illustration shows one instance where there was the additional unsightly feature of a line of poles through the center of the street. While the shrubbery does not altogether conceal the poles, except at their bases, the general effect is to so hold the eye as to cause one in a degree to overlook or forget the existence of the poles.

Most cities do not have these wide roadways, but there are few where there cannot be found at some points open spaces

which would be greatly improved by planting some ornamental shrubbery and trees. (Shrubbery and trees are generally to be preferred to flowering plants, unless the city employs a gardener to care for these and keep them in good condition.) An opportunity of this kind which has been overlooked was noticed by us in Danville, Va., recently. The main street of the city divides into two important thoroughfares and a church of fine appearance occupies the intersection. In front of this church is a triangular plot of ground which has been curbed in and sodded, but otherwise no attempt has been made at utilizing it in the way suggested. As this triangle stands out prominently to one passing up the main street it seems unfortunate that this excellent opportunity has not been taken advantage of.

Flowers, as suggested above, are, in general, too exacting of attention for general street or small park use; in addition to which, most of them bloom but a few weeks and are of little value for ornamental purposes the balance of the time. There are, however, many perennials and hardy shrubs which can be used to advantage and offer a variation from the ordinary shade tree, such as the barberry, dwarf evergreens, and small ornamental trees like the Japanese maples, purple, red, etc. There might be objections to these along a sidewalk, but grouped on small triangles or at salient points in a small square they are well worth while.



WIDE SIDE PARKING AND CENTRAL PARKWAY, LATTER CONTAINING POLES, COLUMBIA, S. C.

## PRODUCER GAS PLANTS

Extent of Their Use in the United States—Development for Power Purposes—Giving Remarkable Satisfaction—Fuels Used

THE development of producer gas for creating power for electric light plants, pumping and other purposes has been studied by the U. S. Geological Survey for a number of years past. A report for the year 1909 has just been published by the Geological Survey, the investigation and the report based thereon having been made by Mr. Robt. H. Fernald. This report contains descriptions in detail of most of the plants of this kind in the country as they were found by the personal inspection and investigation of the author during the past year. From this report we abstract the following general statements, referring our readers to the full report for such further details as they may desire.

It was not until late in the nineteenth century that the gas engine came into common use, and although many types have been devised within the last twenty or thirty years it is only within eight or nine years that large gas engines have been constructed. This development started eleven or twelve years ago in Germany, Belgium and England, but marked progress has been limited to the last eight years.

For a long time the natural fuel of these internal-combustion engines was city gas, but this was too expensive except for engines of small capacity. It was seldom found economical to

### DEVELOPMENT FOR POWER PURPOSES

The rapid advance of the large gas engine was made possible by improvements in the production of cheap gas directly from fuel by means of the gas producer. An early form of producer introduced in Europe, and now in general use both abroad and in the United States, is known as the suction producer, a name suggested by the fact that the engine develops its charge of gas in the producer by means of its own suction stroke. Although many producers of this type are now used, most of them are small, seldom exceeding 200 horsepower. A serious limitation to the utility of the suction producer has

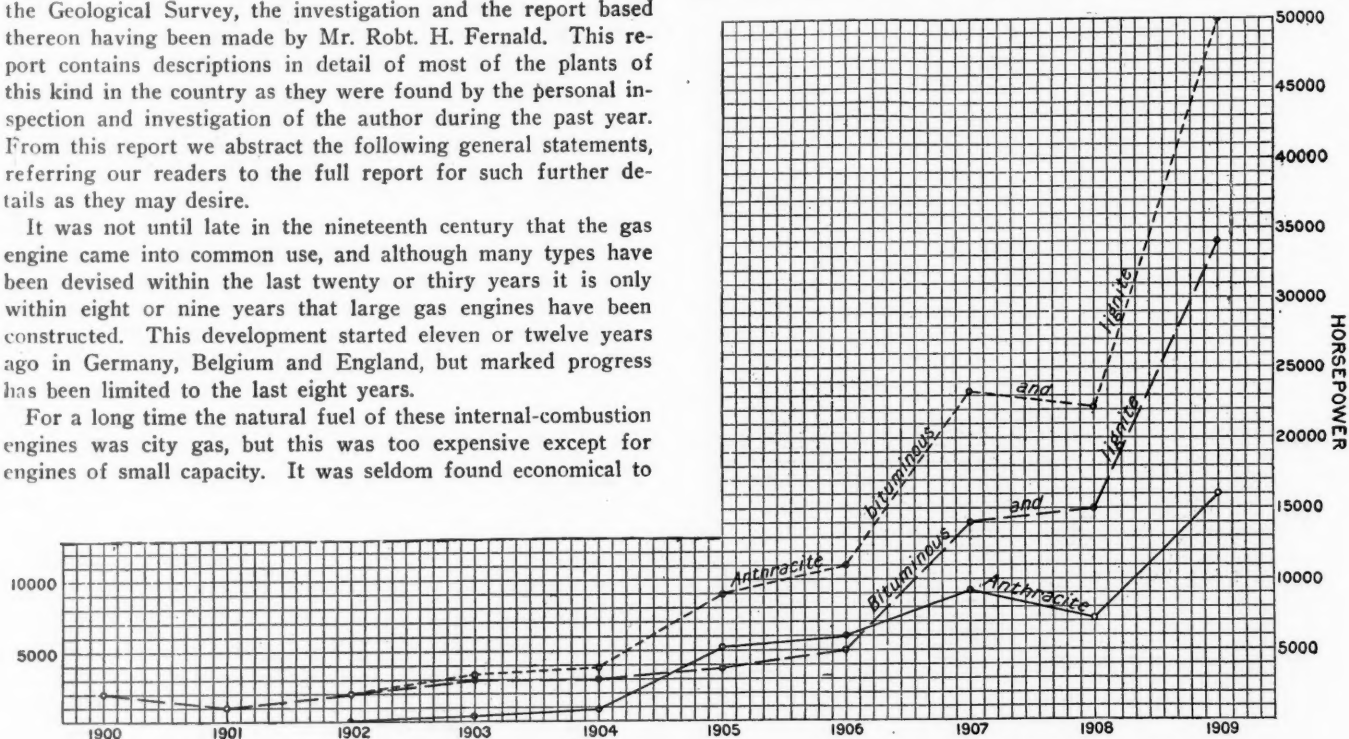


FIGURE 1—ANNUAL INCREASE IN THE TOTAL HORSEPOWER OF PRODUCER-GAS IN THE UNITED STATES

operate units of more than 75 hp with this fuel. Cheap gas was essential for the development of the gas engine, but the early attempts to produce cheap gas were somewhat discouraging, and for a time it seemed very unlikely that the gas engine would encroach to any extent on the field occupied by the steam engine. The theoretical possibilities of the internal-combustion engine operating with cheap fuel promised so much, however, that the practical difficulties were rapidly overcome, with the result that the internal-combustion engine has become a serious rival of the steam engine in many of its applications.

The development of the large gas engine within the last few years has been exceedingly rapid. It was only nine years ago that a 600-horsepower engine exhibited at the Paris Exposition was regarded as a wonder, but to-day four-cycle, twin-tandem, double-acting engines of 2,000 to 3,500 horsepower can be found in nearly all up-to-date steel plants, and there are installations in this country containing several units rated at 5,400 horsepower each.

been the fact that, owing to the manner of generating the gas, no tarry fuels could be used, a restriction that prevented the use of bituminous coals, lignites, peats and other like fuels. The fuels in most common use for producers of this type are charcoal, coke and anthracite coal, although attempts are being made so to construct suction plants that they can be operated with bituminous or tarry coals.

To meet the demand for the concentration of power in large units, instead of operating a large number of separate installations of small power capacity, the pressure producer was de-

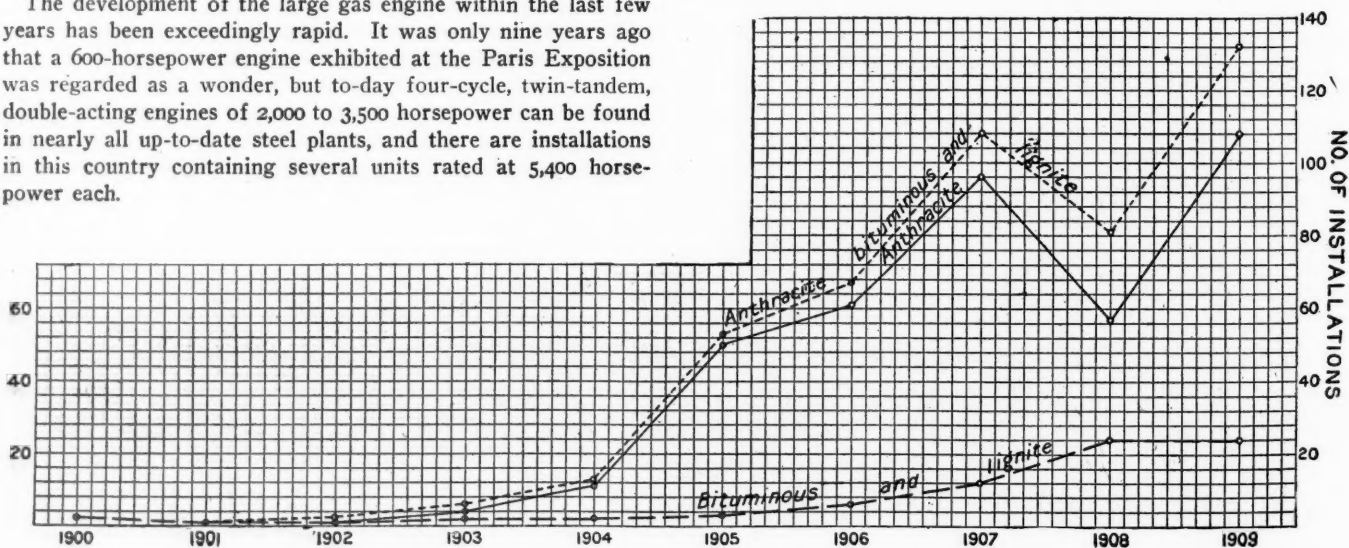


FIGURE 2—ANNUAL INCREASE IN NUMBER OF PRODUCER-GAS POWER PLANTS IN THE UNITED STATES



vised. This producer develops its gas under a slight pressure due to the introduction of an air and steam blast, and the gas is stored in a holder until it is required by the engine. As the gas may thus be stored before passing to the engine, and as its generation does not depend on the suction stroke of the engine, tar and other impurities may be removed from it by suitable devices, and bituminous coal, lignite and peat may thus be used.

The pressure producer was closely followed in the course of development by the down-draft producer, which fixes the tar as a permanent gas, and therefore completely uses the volatile hydrocarbons in bituminous coal, lignite and peat.

A few scattered producer-gas plants were installed for power purposes in the United States before 1900, but the application of this type of power in any general sense has been developed since that date. During the first few years of this period of development anthracite coal, coke and charcoal were used almost exclusively, although occasionally pressure and down-draft plants ventured to use a well-trying bituminous coal known to be especially free from sulphur and caking difficulties and low in both ash and tar-making compounds. The rapid development of the anthracite plant was to be expected, but it remained for the United States Geological Survey in its testing plants at St. Louis and Norfolk to demonstrate the possibility of using in such plants practically all grades of fuel of any commercial value, without reference to the amount of sulphur or tarry matter which they contain. Figs. 1 and 2 illustrate the very rapid increase in the number of installations and in the total horsepower of the plants operating with bituminous coal and lignite since the beginning of these investigations by the Geological Survey in 1904.

From visits made in 1906 Mr. Fernald concluded that:

1. The plants as a whole are giving remarkable satisfaction, considering the very brief period of development that has passed since the introduction of this type of power.
2. The most serious difficulty seems to arise from the lack of competent operators to run the plants rather than from defects or troubles inherent in the plants themselves.
3. Incompetent salesmen are undoubtedly to blame for serious misrepresentations and misunderstandings.
4. The neglect shown by some manufacturers in respect to their plants after they are installed and paid for has not been far-sighted, and the failure of manufacturers to give the purchasers or operators of plants full information regarding their construction and method of operating has certainly been detrimental to the business.

At the present time (1909) the following modifications might be advantageously made in the above statements:

1. Unchanged.
2. This situation still prevails, although there are many more competent operators to-day than three years ago. Time will eliminate this difficulty.
3. With the stronger companies this situation is greatly improved.
4. Experience has shown that such neglect produces serious troubles and financial loss to the manufacturer, and a very decided change for the better has developed in the last few years. There are, however, a few small concerns still operating in the producer field on what may be considered a false basis.

### ARGUMENT FOR SEWER DISTRICTS

WASHINGTON, D. C., is experiencing a difficulty which is becoming more and more common in this country—that of controlling the pollution, by towns above, of streams which flow through its territory. Maryland suburbs of the city are discharging sewage into Rock Creek and Anacostia River and their rapid growth threatens to cause the pollution of these streams to become a serious matter. Washington's sewerage plan provides for intercepting sewers along the banks of each of these streams to protect them from pollution; but if the towns above are not prevented from discharging into them the rapidly increasing amounts of their sewage this action on the part of Washington will be of little avail. For this reason Mr. Asa Phillips, Superintendent of Sewers, and the Board of Commissioners, are agitating the formation of a sewerage district to embrace the drainage areas of these two streams, and a joint intercepting sewer to serve all communities of each area.

## BITUMINOUS PAVEMENT SPECIFICATIONS

Adopted at the Chicago Convention—Sheet Asphalt and Bituminous Concrete—Drainage, Foundations and Surfacing Mixtures—Coal Tar or Asphalt

THE Committee on Asphalt and Bituminous Pavements appointed by the Chicago Convention on Standard Specifications presented complete specifications for both classes of pavement, but had in mind the fact that specifications made to-day would probably need revision to-morrow, owing to the rapid progress that is being made in the use of bituminous substances. It is probable that the committee referred, in this statement, especially to the bituminous pavements other than sheet asphalt, and that the specifications presented for the latter may be accepted as subject to little change, and this gradual.

The specifications are as follows:

### Sheet Asphalt Pavement

#### SUBDRAINAGE

When the soil is of such a character that it retains an excessive amount of moisture, such as clays subject to swelling or heaving under the action of frost, or sands similar to quick sand that do not afford a ready natural drainage, subdrains should be provided.

Subdrains may be of two general kinds, first, tile drains of open porous material or vitrified tile laid with open joints; second, trenches filled with broken stone, gravel, cinders or other similar material.

In some cases it may be sufficient to construct a line of tile or a trench filled with broken stone, cinders or gravel, on each side of the roadway at or near the lines of the gutters, but when the soil is of a very wet nature it may be advisable to lay additional lines of drains which may be in or near the middle of the roadway. This system of drains may be varied by diagonal lines of drains running from near the crown of the roadway to the gutters.

In all cases the drains should have connections with the existing sewers, catch basins or inlets.

#### FOUNDATION

The contractor will be required to do all of the grading necessary to bring the surface to the proper sub-grade as determined by the lines and grades given by the engineer. If the material at sub-grade shall be of an unstable character and unfit for foundation the contractors will make such additional excavation as may be determined by the engineer and refill with suitable material approved by the engineer. Should the sub-grade require draining, such provision shall be made as the local conditions will require, as determined by the engineer and provided for in the specifications for that particular locality. After all necessary grading has been done to bring the surface to sub-grade, the street shall be thoroughly rolled with a steam roller weighing not less than ten tons. If settlement occurs the depression shall be filled and then rolled until the surface is solid and uniform. All filling shall be free from animal or vegetable matter and of a character approved by the engineer. Should the foundation be of sand, which would be impracticable to roll, the entire roadway from curb to curb shall be thoroughly puddled by flooding with water one or more times if found to be necessary. The contractor shall furnish all water and hose for puddling and all necessary labor to properly perform the work.

### SURFACING MIXTURES

#### Refined Asphalt

The refined asphalts to be used for paving mixtures herein required shall be derived in the following manner:

1. By heating, if requiring refinement, crude, natural, solid asphalt to a temperature of not over 400 degrees F. until all the water has been driven off. Crude, natural, solid asphalt shall be construed to mean any natural mineral bitumen either pure or mixed with foreign matter, from which, through natural causes in the process of time, the light oils have been driven off until it has a consistency harder than 100 penetration at 77 degrees F. At least 98½ per cent of the contained bitumen in the refined asphalt, which is soluble in cold carbon disulphide, shall be soluble in cold carbon tetra chloride. Such asphalt must melt readily upon the application of heat. In no case shall it be prepared at the refinery with any product not hereinafter provided for.

2. By the careful distillation of asphaltic petroleum until the resulting residue has a consistency not harder than 40 penetration at 77 degrees F.

a. The solid residue so obtained shall be soluble in carbon tetra chloride to the extent of 98½ per cent.

b. Its bitumen shall yield upon ignition not more than 15 per cent of fixed carbon.

c. When 20 grams of the material are heated for five hours at a temperature of 325 degrees F. in a tin box 2½ inches in diameter, after the manner officially prescribed, it shall not lose over 5 per cent by weight nor shall the penetration at 77 degrees F. after such heating be less than one-half of the original penetration.

d. A briquette of the solid residue having a cross section of one square centimeter shall have a ductility of not less than 30 centimeters at 77 degrees F.

Note—Combinations of asphaltic and semi-asphaltic residues having the ductility and other characteristics above named are admitted under Section 2.

3. By combining at the paving plant in uniform and fixed proportion which shall be satisfactory to (proper city official) solid, natural asphalt and solid asphaltic residue as hereinbefore described. The refined natural asphalt shall be derived from the crude natural asphalt of the quality and in the manner specified before, except that the crude natural asphalt may have added to it, if desired, at the refinery, as a partial fluxing, an amount of asphaltic or semi-asphaltic flux of the character and within the limit specified elsewhere herein, such fluxing to be conducted under the supervision of (proper city official) when desired. In the use of these mixtures of refined asphalts or asphaltic cements, only asphaltic or semi-asphaltic fluxes shall be used, except in those cases where the solid natural asphalt is of such character that when mixed with paraffine flux without the further addition of any other material, it will produce an asphaltic cement complying with the requirements hereinafter set forth under that head. In such cases any of the fluxes elsewhere herein specified may be used.

The preparation and refining of all asphalts admitted under these specifications shall be subject to such inspection at the paving plants and refineries as the (proper city official) may direct.

#### Flux

The fluxing material may be a paraffine, a semi-asphaltic, or an asphaltic residue which shall be tested with and found suitable to the asphalt to be used. It shall be free from water or other impurities.

The residuums must have a penetration greater than 350 hundredths centimeters, with a number 2 needle at 77 degrees F. under 50 grams weight for one second.

A natural Maltha may be used if it passes the heat and flash tests specified under "a" and all fluxes must, furthermore, remain soft after heating for five hours at 400 degrees F.

All residuums shall be soluble in cold carbon tetra chloride to the extent of 99 per cent.

a. The paraffine residuum shall have a specific gravity of 92 to 94 hundredths at 77 degrees F. It shall not flash below 350 degrees F. when tested in the New York State closed oil tester, and shall not volatilize more than 5 per cent of material when heated five hours at 325 degrees F. in a tin box 2½ inches in diameter as officially prescribed. The residue after heating shall flow at 77 degrees F. and shall be homogeneous and shall show no coarse crystals.

b. Semi-asphaltic residuum shall have the same general characteristics as paraffine residuum except that it shall have a specific gravity of .94 to .98 at 77 degrees F.

c. Asphaltic residuum shall have the same general characteristics as paraffine residuum except that the specific gravity shall be not less than .98 nor more than 1.04 at 77 degrees F. The asphaltic residuum after evaporation at 500 degrees F. to a solid of 50 penetration shall have a ductility of not less than 30 cm.

#### Asphaltic Cement

The asphaltic cement prepared from materials above designated shall be made up from the refined asphalt or asphalts, and the flux where flux must be used, in such proportions as to produce an asphaltic cement of a suitable degree of penetration. The proportion of the refined asphalts comprising the cement shall in no case be less than 40 per cent by weight.

When weight of flux in the asphaltic cement prepared from solid natural asphalts exceeds 25 per cent thereof, asphaltic or semi-asphaltic flux shall be used. Semi-asphaltic flux, in such case, must have a gravity of not less than .95 at 77 degrees F.

Refined asphalts and flux comprising the asphaltic cement shall, when required, be weighed separately in the presence of the authorized inspectors or agents of (proper city official).

Refined asphalt and flux used in preparing the cement shall be heated together in a kettle at temperatures ranging from 250 degrees to not over 375 degrees F., and be thoroughly agitated when hot by air, steam or mechanical appliances, until the resulting cement has become thoroughly mixed into a homogeneous mass. The agitation must be continued during the entire period of preparing the mixtures. Cement shall always be of uniform

consistency, and if any portion should settle in the kettles between intervals of using the same, it must be thoroughly agitated before being drawn for use.

The asphaltic cement shall have a penetration of from 30 to 100 which shall be varied within these limits to adapt it to the particular asphalt used in the paving mixture and to the traffic and other conditions of the street.

a. When 20 grams of the asphaltic cement of the penetration to be used in the paving mixture shall be heated for five hours at a temperature of 325 degrees F., in an oven as officially specified, there must not be volatilized more than 5 per cent of the bitumen present, nor shall the penetration at 77 degrees F. after such heating be less than one-half of the original penetration.

b. The bitumen of the asphaltic cement shall give upon ignition, not more than 15 per cent of fixed carbon.

c. A briquette of the pure bitumen of the asphaltic cement of the penetration to be used in the paving mixture, having a cross section of one square centimeter, shall elongate to the extent of not less than ten centimeters nor more than one hundred centimeters at 77 degrees F.

#### Sand

The sand shall be hard-grained and moderately sharp. It shall be free from loam or any other foreign material, and shall be so graded as to produce, in the finished surface mixture, the mesh requirements elsewhere herein specified. It shall contain not to exceed 6 per cent of sand that will pass a No. 200-mesh sieve.

#### Binder Stone

Stone or gravel to be used for asphaltic concrete binder shall be hard and durable, free from all foreign substances, and of varying sizes, from one inch down.

#### Preparation of Asphaltic Concrete Binder

Asphaltic concrete binder shall be made as follows:

The binder stone and sand, as above specified, shall be heated to from 200 to 325 degrees F. in suitable appliances. Stone and sand shall be measured off separately and then be mixed with sufficient asphaltic cement prepared as heretofore specified, in such proportions that the resulting aggregate will contain by weight material passing a No. 10 mesh screen, between 30 and 40 per cent, and bitumen in quantity from 5 to 8 per cent of the entire mixture. Concrete thus prepared shall be a compact mass containing a minimum of voids. If the permission of (proper city official) were available, old asphaltic surface paving mixtures may be used in combination with the binder stone, such mixtures having been previously crushed or disintegrated and augmented with at least 1 per cent of fresh asphaltic cement, so that when combined the resulting concrete shall form an equally compact mass and correspond as to aggregate passing a No. 10 mesh screen and its contained percentages of bitumen with the requirements for the mixture previously specified.

Note: Inasmuch as the percentage of bitumen in the binder will depend upon the grading of the aggregate, the proportions of the materials used in the above may be varied by (authorized city official), but only within the limits designated.

#### Laying Asphaltic Concrete Binder

The asphaltic concrete binder shall be brought to the work in wagons, covered with canvas or other suitable material, and upon reaching the street shall have a temperature of 200 to 325 degrees F. It shall be placed upon the street and raked to a uniform surface to such depth that, after being rolled and thoroughly compacted, it shall have a thickness of inches. The surface, after compression, shall show at no place an excess of asphaltic cement, and any spot covering an area of one square foot or more showing an excess of asphaltic cement, shall be cut out and replaced with other material. Smaller spots may be dried by the use of stone dust and smoothers. Any asphaltic concrete binder broken up during the process of laying must be removed and replaced with new material. Asphaltic concrete binder shall be followed and covered with wearing surface as soon as is practicable in order to effect the most thorough bond between the binder and the wearing course.

#### Asphaltic Surface Mixture or Wearing Course

The Committee, in presenting two kinds of mixtures for wearing surface, one having as filler Portland cement and one with a stone dust filler, considers that the adoption or application of either would be a matter of local conditions and accordingly should be left to the discretion of the engineer in charge of such paving construction.

The surface mixture shall consist of asphaltic cement, Portland cement, (stone dust) and sand proportioned by weight so that the resulting mixture will contain average proportions of the whole mixture as follows:

#### Mixture A.

Bitumen soluble in cold carbon disulphide.....	11.0 to 13.5%
Portland cement passing a No. 200 sieve.....	10.0 to 15.0%
Sand passing a No. 80 sieve.....	18.0 to 36.0%
Sand passing a No. 40 sieve.....	20.0 to 50.0%



Sand passing a No. 10 sieve.....	8.0 to 20.0%
Sand passing a No. 4 sieve.....	up to 10.0%
Mixture B.	
Bitumen soluble in cold carbon disulphide.....	10.5 to 13.5%
Stone dust passing a No. 200 sieve.....	10.0 to 15.0%
Sand passing a No. 80 sieve.....	18.0 to 36.0%
Sand passing a No. 40 sieve.....	20.0 to 50.0%
Sand passing a No. 10 sieve.....	8.0 to 20.0%
Sand passing a No. 4 sieve.....	up to 10.0%

The item designated as "Portland cement (stone dust) passing a No. 200 sieve" within the limits herein, includes in addition to the Portland cement (stone dust) fine sand passing a No. 200 sieve not exceeding  $4\frac{1}{2}$  per cent of the total mixture, and such 200-mesh mineral dust naturally self-contained in the refined asphalt.

Sand and asphaltic cement shall be heated separately to about 300 degrees F. The maximum temperature of the sand at the mixers shall in no case be in excess of 375 degrees F. and the maximum temperature of the asphaltic cement shall not exceed 325 degrees F. at the discharge pipe. The Portland cement (stone dust) shall be mixed with the hot sand in the required proportions, and then these shall be mixed for at least one minute with the asphaltic cement at the required temperature, and in the proper proportions in a suitable apparatus so as to effect a thoroughly homogeneous mixture.

The proportion of asphaltic cement shall at all times be determined by actual weighing with scales attached to the asphaltic cement bucket.

The Portland cement (stone dust) and sand must also be weighed unless a method of gauging approved by the (authorized city official) shall be used.

The contractor shall furnish every facility for the verification of all scales or measures.

The sand gradings and bitumen may be varied within the limits designated in the discretion of (proper city official).

#### Laying the Wearing Surface

The asphalt wearing surface shall be hauled to the work in wagons provided with a canvas or other suitable cover. It shall leave the plant at a temperature between 250 degrees and 325 degrees F., as suitable for the asphalt used. Upon arrival at the street it shall be dumped at such distance from the work that all of the mixture must be turned and distributed to the place where it is to be raked. It shall be spread, while hot, to such depth upon the asphaltic concrete binder, which must be thoroughly dry, free from leaves or other foreign matter, that after receiving its ultimate compression by rolling, it shall have a thickness of inches. The initial compression may be effected by means of a small roller, after which a small amount of mineral dust shall be swept over the surface. The final compression shall be effected by a ten-ton roller, or the equivalent of not less than two hundred and fifty (250) pounds per running inch width. Rolling must be steadily kept up and continued until all roller marks shall disappear and the surface shall give indication of no further compressibility.

Note: All tests herein provided must be conducted according to official methods on file in the office of (proper official).

All penetrations indicated herein unless otherwise specified refer to the depth of penetration in hundredths centimeters of a No. 2 needle weighted with 100 grams at 77 degrees F. acting for five seconds.

### Specifications for Bituminous Concrete Pavement

#### FOUNDATION

The foundation upon which the pavement is laid may be either concrete or macadam.

##### Concrete Foundation

If of concrete it may be laid according to the standard specifications for concrete foundation, the surface being made rough and grainy so the paving material may get a proper bond or grip on the concrete.

##### New Macadam Foundation

If the pavement is to be laid on a new macadam foundation the macadam shall be built according to the standard specifications except the upper one-half inch shall not be completely filled and bonded, the intention being the same as with the concrete foundation, viz.: to produce a somewhat rough, grainy surface into which some of the paving mixture will be forced by the roller. For heavy traffic eight inches of well compacted macadam may be considered equal to six inches of concrete, and for light or ordinary traffic six inches of macadam equal to four or five inches of concrete.

##### Old Macadam Foundation

If the pavement is to be laid on an old macadam base, the surface shall be thoroughly swept and cleaned of all fine material that may be either caked upon the surface of the stone or lying loose as dust, thereby exposing the clean stone in the surface for the reception of the paving material.

If the old macadam is not in suitable condition or proper grade after cleaning it shall be spiked up and redressed to the proper

crown and grade, the coarse stone being left at the top, or new stone added when, in the opinion of the engineer, it is needed to give the desired grainy surface or thickness of foundation.

It shall then be thoroughly rolled with the use of as little water as possible so the macadam does not finish smooth.

When it is not practicable to secure a foundation, either macadam or concrete, with sufficient grain in the surface to give the desired bond or key between the foundation and the paving material, the adhesion between the two may be increased by sprinkling the foundation with the bituminous cement before the paving mixture is spread, using not exceeding one-fourth gallon per square yard.

#### Old Brick or Granite Foundation

An old brick or granite block pavement, if in the opinion of the engineer it is well supported and stable, may be used as a base for the bituminous concrete pavement by thoroughly cleaning the old pavement and sprinkling its surface with the bituminous cement.

#### WEARING SURFACE

On the foundation as heretofore specified shall be laid the bituminous concrete wearing surface, which shall be composed of carefully selected, sound, hard, crushed stone and sand mixed with bituminous cement and laid as hereinafter specified. This wearing surface shall have a thickness of ..... inches after thorough compression with a five (5) ton tandem roller.

#### Mineral Aggregate

The mineral aggregate shall consist of broken stone or broken stone and sand of a fairly uniform grading from the largest to the smallest particles in such proportions as to give the mixture a maximum degree of density and low percentage of voids. The maximum size of stone used may range from that passing a screen having circular openings three-fourths ( $\frac{3}{4}$ ) of an inch in diameter up to one and one-quarter ( $1\frac{1}{4}$ ) inches in diameter. Crusher run of stone between one (1) inch and screenings passing a one-fourth ( $\frac{1}{4}$ ) inch may be used if found to be fairly evenly graded. Coarser stone when used shall be graded and remixed in proper proportion. (The screenings passing the one-fourth ( $\frac{1}{4}$ ) inch mesh screen may be used when the bitumen is refined coal tar or an asphalt not having a low ductility.) Coarse and fine sand having proper grading shall be added in such proportions as necessary to secure the dense aggregate specified above. Stone dust or hydraulic cement may be added as needed when the character of the bitumen used requires it.

#### Bituminous Cement

The bituminous cement may be either refined coal tar or asphaltic cement.

##### Coal Tar

The coal tar must be the residue of the distillation of coal tar only and be specially refined for the purpose. No admixture of hard pitch with the lighter oils of coal tar will be permitted. The cement shall conform to such physical and chemical tests necessary to satisfy the (local officials) as to its suitability.

(The Committee does not find available sufficient data enabling the preparation of more detailed specifications at this time. We recommend careful experiments and collection of data for future consideration.)

#### Asphaltic Cement

The asphaltic cement may be prepared: (1) from refined natural asphalt; (2) from the residue obtained in the oxidation or distillation of asphaltic or semi-asphaltic petroleum; (3) from any uniform combination of the preceding materials together with a suitable flux, if flux be necessary, such combination being subject to the approval of the engineer.

Each bidder must state the nature and origin of the bitumen to be used by him; and further, shall submit samples of the bitumen with his proposal.

The asphaltic cement must pass the requirements designated below:

(1) The asphaltic cement shall have a penetration of 30 to 100 hundredths centimeter at 77 degrees F. Dow Standard, which shall be suitable to the nature of the material used and to the traffic and other conditions of the street.

(2) When 20 grams of the cement are maintained at a temperature of 325 degrees F. for five hours in a tin box  $2\frac{1}{2}$  inches in diameter, there must not be volatilization more than 3 per cent by weight of the bitumen present, nor shall the original penetration be reduced thereby over one-half.

(3) The bitumen of the asphaltic cement shall give upon ignition not more than 15 per cent of fixed carbon.

(4) Ninety-eight and one-half per cent of the bitumen of the asphaltic cement, which is soluble in carbon disulphide, shall be soluble in carbon tetra chloride.

(5) At 32 degrees F. the bitumen of the cement shall have a penetration of not less than 10 when tested one minute with the needle weighted to 200 grams, and at 115 degrees F., when weighted to 50 grams for five seconds, shall have a penetration of not more than 280.

(6) The cement shall not flash at a less temperature than 350 degrees F. New York State closed oil tester.

#### Method of Mixing

The aggregate shall be thoroughly dried in properly designed driers before mixing with the bitumen. The driers shall be of the revolving type, thoroughly agitating and turning the materials during the process of drying. When the aggregate is thoroughly dried and heated to a temperature of from 200 to 350 degrees F., depending on the bituminous cement used, it shall be immediately, before cooling or exposing to moisture, mixed with the hot bituminous cement as hereinafter specified.

The bituminous cement shall be melted in a tank arranged so the heat can be properly and easily controlled and regulated. When melted and raised to a temperature of from 200 to 350 degrees F., depending on the bituminous cement used, it shall be combined in proper proportions with the hot aggregate and immediately mixed in a properly designed mixer with revolving blades until a thorough and intimate mixture of the ingredients has been accomplished, and the particles composing the aggregate evenly and thoroughly coated with the bituminous cement. The mixer shall not be exposed directly to the action of the fire.

#### Laying

While still hot from the mixer, the paving mixture shall be spread evenly on the foundation with hot iron rakes or shovels or both, so that when compressed with the roller it shall have the thickness specified above, with the surface even and true to grade. Along the curb and around manholes, catch basins and other obstructions in the street where the roller cannot reach the compression shall be secured by the use of hot iron tampers. The tamping shall be done as quickly as possible after the material is spread, while still hot and pliable. When the paving mixture is hauled on the street in dump wagons it shall be kept covered with canvas to retain heat, dumped on platforms and shoveled into place and raked to secure the proper grade. As soon as the temperature will permit, the paving mixture shall be rolled with a tandem steam roller weighing at least five (5) tons and the rolling continued, working lengthwise and diagonally of the street. Rolling must be steadily kept up and continued until all roller marks shall disappear, and the surface gives indications of no further compressibility.

The paving shall be done continuously, so the number of joints between the hot and cold material shall be reduced to the minimum. When it is not practicable to lay it continuously and a joint is unavoidable the edge of the cold material shall be trimmed down to a rough feather edge and the surface, where the joint is to be made, painted over with bituminous cement, the hot material raked over the feathered edge and thoroughly rolled. Instead of trimming the cold material joint strips may be used consisting of strips of canvas about eighteen (18) inches wide with three parallel lines of three-quarter ( $\frac{3}{4}$ ) inch ropes sewed on the under side about three (3) inches apart. The joint strips shall be laid on the feather edge of the freshly raked material with the upper rope at the line where the thickness begins to decrease and the rolling completed on top of the canvas as for finished pavement. The faces of the curb and gutter, iron castings, etc., shall be painted with the bituminous cement before the paving mixture is laid.

#### Surface Finish

As soon as possible after the rolling of the mixture is finished, and while the surface is still fresh and clean, and if possible while warm, a skin coat of bituminous cement of proper consistency to be flexible when cold shall be spread over the surface. It shall be spread on while at a temperature of from 200 degrees to 350 degrees F., depending on the bituminous cement used, and evenly spread with rubber squeegees. Only a sufficient coat shall be spread to flush the surface voids without leaving an excess. Immediately over this a top dressing of torpedo sand, fine gravel or stone chips free from dust, which must be thoroughly dry and heated in cold weather, shall be spread and thoroughly rolled into the surface. A small surplus shall be left to be worn in or worn away by the traffic.

After the sand or stone chips have worn in to the surface the street shall be swept, all excess of surfacing material removed and the street left clean.

### GARBAGE DISPOSAL AT WASHINGTON

THE District of Columbia is asking for bids for collecting and disposing of its ashes, garbage, dead animals, night soil, etc., for a period of one, three or five years. It is unfortunate that cities should think it necessary to make such short-term contracts for work involving the use of the expensive and permanent plant demanded by the disposal of garbage. A good plant for this purpose should last twenty years. To make it necessary to recover its considerable cost during a short contract is bound to be an expensive policy for a city.

### EXHIBIT BY MUNICIPAL DEPARTMENTS

IN our February 16th issue we referred to lectures given by Grand Rapids officials explaining the work being done by the several city departments, and suggested an extension of the idea by exhibiting at some place frequented by the public, such as the public library, photographs, charts, etc., showing what the officials did with the taxpayers' money. Mr. Samuel H. Rauck, librarian of the Grand Rapids Public Library, calls our attention to a notice in the November issue of the *Library Bulletin*, which tells of an exhibit along this line which was made in the Grand Rapids library. The notice was as follows:

#### SURVEY OF GRAND RAPIDS

From November 9 to the end of the month there will be shown in the Historical Room most of the Grand Rapids part of the exhibition held in connection with the Second Civic Revival. This includes the exhibits of the Board of Health, the Park Board, Board of Education, Board of Public Works, Police and Fire Departments, the Library and Museum, Comprehensive City Plan, Juvenile Court, Charity Organization Society, Bissell House, District Nurses Association, and other philanthropic agencies of the city. All of these are exceedingly interesting and instructive and are well worth time for careful study. The exhibit is a surprise to everyone who sees it and it is believed that as many of our citizens as possible should have the opportunity to see it, and for this reason it will be installed at the Library at the close of the Revival exhibit.

While this exhibit was apparently devoted more to sociology than to public works or official doings, it was in line with the idea suggested. But what we had in mind was more like a permanent graphical record of the subject of a public lecture delivered February 4 by Mr. Samuel A. Freshney, secretary and general manager of the Board of Public Works of Grand Rapids, in which he described the water works, lighting plant, care of streets, bridges, sewers, flood protection, smoke prevention, etc., of that city.

Suppose a series of photographs in a large frame be devoted to the water works. No. 1 might be a photograph of the pumps. Under this a statement of the amount of water pumped per day, the force employed, the amount of coal used, and the consequent station cost of water; No. 2, photograph of the reservoir, under which is a statement of its elevation above the pumping station and the consequent lift of the water; also the proportion of the total contents of the reservoir used every day. No. 3, photograph of a yard full of water pipe, under which is the statement that to distribute the water has required the laying of ten, twenty, or whatever it may be times the pipe there shown. No. 4, a photograph of, say, six hogsheads, and under it the caption—"The average family in this city uses enough water in a day to fill all these hogsheads. And for this, to furnish which to him required the machinery, reservoir, pipes, etc., shown above, he pays the sum of six cents a day, or a cent a hogshead." No. 5 might be a photograph of a cross-section of a meter (which the meter company could furnish), providing meters are used or advocated; accompanied by a statement of some unbiased authority, such as the hydraulic laboratory of a college, showing that new meters never overmeasure more than 3 per cent, seldom more than one, and that as they grow older any change is in favor of the consumer. If the water is purified, a photograph of the plant would be in order; also one showing two bottles of liquid, one as delivered to the intake by nature and the cities above, the other as delivered to the consumer; and periodic analyses showing bacteria and sediment removed.

The above is but a crude suggestion. Even more interesting could be made the photographic and graphic record of how last year's appropriation was spent by a department, such as the highway; the photographs showing the streets before improvement, after improvement and under construction; and maps being shown on which are indicated by colors the streets paved with each kind of material, work done last year and streets which need improvement if money is forthcoming.

Any official who is heartily interested in his work and believes he is doing the best possible with the funds at his disposal (and any other ought to resign) could undoubtedly improve on this outline. We believe such an exhibit would profit both himself and the taxpayers. And the expense in money would be merely nominal.



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## CHANGE OF ADDRESS

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It is further requested that our Subscription Department be notified if copies are not received promptly.

Readers are invited to contribute to the MUNICIPAL JOURNAL AND ENGINEER, either in the form of special articles or of letters discussing matters of current interest.

It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

MARCH 16, 1910

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## Municipal Garbage Utilization

ONLY three or four years ago the City of Cleveland, Ohio, obtained by purchase the only municipally owned garbage utilization plant in the country. Previous to that time the business had been guarded almost like a trade secret and it was possible to learn practically nothing concerning either the financial or practical side. Later Cleveland added to this plant and made some changes in the line of improvement. The City of Columbus, as is told on another page, is now constructing an entirely new plant, as any other plant might be built, by purchasing the necessary machinery in the open market. Thus we find removed a large part of the mystery surrounding this subject, and which we imagine was to a large extent fostered by the garbage utilization companies themselves. With this method of treating garbage now brought into the open, we

can expect in a few years a more intelligent and reliable estimate upon its value as compared with incineration, which will make possible a comparison of both and the adoption for any city of the one best adapted to its needs.

## What Is Sewage Purification?

FIFTEEN years ago there would have been little hesitation in answering this question, the reply being that purified sewage was one in which a large percentage of the free and albuminoid ammonia had been oxidized into nitrites and nitrates, and from which most of the bacteria has been removed, together with practically all of the suspended matter, the effluent being clear. Fine sand filters, which were the standard purification devices, removed 85 to 99 per cent of the organic matter, and the bacterial removal was frequently as high. The aim was to obtain an effluent which was as clear as the stream which received it. In some cases it was clearer, and the stream was actually benefited by the sewage effluent.

The latest and most complete plant yet in operation, representing the modern idea in sewage purification, is that of Columbus, Ohio. This has now been operated for nearly a year, and was fully developed in action by July, when the suspended matter was reduced on the average from 115 parts per million to 91 parts in the effluent, a reduction of but 21 per cent; the oxygen consumed was reduced about 47 per cent, and the lowest average bacterial content of the effluent for any month was 170,000 per c.c. A method of sewage purification which gave no better results than these would not have received serious consideration by sanitary engineers a decade ago. A well-designed sedimentation tank will of itself remove 40 to 60 per cent of the suspended matter, or twice as much as the Columbus plant. Apparently either the Columbus plant is doing woefully poor work or the idea of what constitutes sewage purification has changed.

As a matter of fact, it is the latter. The old idea was removal or practically complete oxidation of all organic matter and bacteria. The idea embodied in the Columbus plant is the modification of the organic matter to produce an effluent which, although high in suspended matters, contains these only in such form as will not ordinarily putrefy, but will be little more harmful or offensive than an equal amount of dead leaves or sawdust. In a sense this has only to a small degree been purified, but it is no longer in a condition to become offensive, if well diluted. Practically no thought is given to the bacteria, but modern treatment provides for destroying these when necessary by the use of disinfectants.

The use of the same term "purification" for such treatment of sewage would, however, seem to be unfortunate, as it would lead the uninitiated to assume that the results of sprinkling filters and of fine sand filters were equal or comparable. The term "modified," employed above, has been given by some sanitarians to sewage rendered non-putrescible, and it would seem desirable to employ this term rather than purification for this class of treatment. We would then have the terms "purify," "modify" and "disinfect" for the processes typified by the fine sand filter, the sprinkling filter and the use of disinfectants. (The word sterilize is sometimes employed in place of disinfect, but complete sterilization is impracticable, if not even impossible, in the present state of the art.) Purified sewage would then describe an effluent in which practically all suspended matter and bacteria have been removed and most of the organic matter has been oxidized into harmless nitrates. Modified sewage would be that in which the reduction of bacteria is not sufficient to be of importance and the actual amount of suspended matter is not reduced more than 25 to 50 per cent, but the organic matter has been modified to such a chemical and structural form that it will not putrefy unless allowed to stand for some time in sludge beds or collect in heavy deposits under conditions which would cause any organic matter to putrefy. And disinfected sewage would be that in which a large percentage of the bacteria have been killed by the application of chemicals, no implication being made as to the condition of the organic contents of the fluid.

## NEWS OF THE MUNICIPALITIES

Current Subjects of General Interest, Under Consideration by City Councils and Department Heads—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

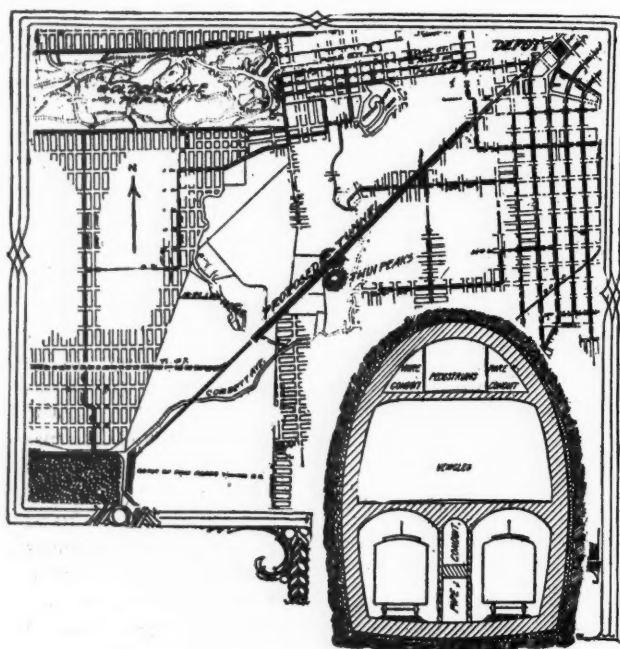
### ROADS AND PAVEMENTS

#### Automobiles Wear Macadam Side of Crosswalks

Mt. Vernon, N. Y.—Commissioner of Public Works Beresford reported to Council regarding the injury done the macadam pavement at street corners by the friction of fast moving automobiles. This friction, stated the Commissioner, caused the macadam to be gradually made lower than the crosswalk, leaving, in consequence, a dangerous and undesirable height of the bluestone walk. He recommended as a remedy the paving of each side of all crosswalks where such conditions obtain, with paving brick, laid in a bed of sand an inch in thickness.

#### To Tunnel Twin Peaks

San Francisco, Cal.—The project of tunneling Twin Peaks in order to extend Market street is not a new one. Its feasibility was discussed twenty-five years ago and at different intervals since, but no definite action was ever taken to consummate it. But with the shifting and growth of population, since the fire of 1906, the need of the projected improvements has assumed commanding proportions and forms the basis of a movement that is under way to take the matter up and find ways and means of putting the work through. In addition to the matter of ways and means there will also come up the selection of style of tube to run through the hilly barrier at the head of Market street. Two styles have been suggested. One calls for a tunnel for the accommodation of railroad traffic only and the other for a more elaborate tunnel which will have a double-deck passageway, the lower for cars and the other for vehicles and pedestrians. The latter proposition was suggested by the Merchants' Association shortly after the semi-annual banquet of that body last May, when the feasibility of tunneling Twin Peaks was discussed by a number of the speakers. This style of tunnel was the choice of the committee on street railroads of the association. It provided for a boring beginning at about Market and Castro streets and emerging near the Almshouse tract. This tunnel, according to the projectors, would furnish a route for street cars which would run southward down the peninsula and tap the Parkside district. In the estimation of engineers this tunnel would cost about \$3,000,000. It would be about a mile and a half in length and would accommodate a double track for cars.



PROPOSED TRAFFIC TUNNEL FOR SAN FRANCISCO

#### To Park or Pave the Public Square

Bucyrus, O.—Petitions for and against parking the Public Square have been presented to Council. Those who are opposed to the parking plan would prefer to have the square paved. They claim that the square is too small to be used in the manner proposed and that it would result in the depreciation of values. It is also stated that the public has vested rights in using the square, which would be interfered with by the strips of parking.

#### Alderman Lays First Brick

Gadsden, Ala.—The first paving brick laid on the streets of Gadsden was laid by Alderman S. S. Caldwell. The Graves Matthews Paving Company has a contract for paving the business streets. An effort was made to locate Mayor Murphree in order to have him lay the first brick, but, failing in that, the honor fell to the Alderman.

#### Try More Street Dragging

Hutchinson, Kan.—City Commissioner O. S. Carpenter has been doing some very effective work with road drags on the dirt streets. However, arrangements are now being made for more systematic work along this line, and it is proposed to engage teams, apart from those in the regular street department, to do special work with the road drags when they are needed.

### SEWERAGE AND SANITATION

#### Plans for Covering Jones Falls Accepted

Baltimore, Md.—The Civic Center Commission has adopted the plan of Calvin W. Hendrick, Chief Engineer of the Sewerage Commission, for the improvement of Jones Falls as one of the first things to be accomplished in the improvement of the city. Jones Falls is a stream walled in on both sides, going through the center of the city. It has been used as an outlet for both storm and sanitary sewers in the old sewerage system. In places the Falls are to be diverted from their present bed. The river bed will be covered over and used as a street or boulevard. Storm water will be taken care of by three channels, one for the normal flow, one for high water and a third for excessively high water.

#### Ohio River Pollution Worse Than Canal

Cincinnati, O.—The poor old canal which has for years been maligned as "a dirty sewer" and similar approbrious references, turns out to be a much cleaner stream, chemically speaking, than the Ohio river. This interesting discovery has been made by Prof. Waldbott, of the Ohio Mechanics Institute, whose investigation reveals that the canal water contains even less sewage or similar impurities than the filtered water that is delivered to city homes through the hydrants. In the building of the new home for the institute, at Canal and Walnut streets, a seepage was encountered on the northeast corner of the excavation, and to determine where this came from the water was analyzed, as was also that of the canal. The seepage was found to be neighborhood sewage, containing 153 parts of chlorine to 1,000,000 parts of water. The canal water was found to contain but six parts of chlorine to 1,000,000 parts of water, while filtered water from the hydrant was found to contain 20 parts to 1,000,000.

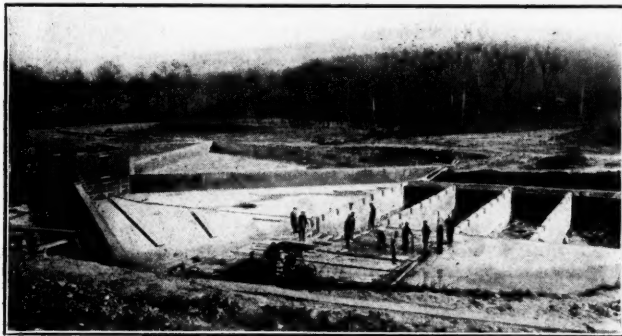
#### Typhoid in Erie

Erie, Pa.—The appearance of over 20 cases of typhoid fever within the past few weeks has caused City Health Officer J. W. Wright to advise that all drinking water be boiled. The fact that each case has occurred on a different milk route leads to the belief that the cause cannot be in the milk supply. The lake is covered over with ice, and it is believed that in some way this is responsible for the impurities in the water.



**Morristown Sewage Disposal Plant Nears Completion**

Morristown, N. J.—The new sewage disposal plant will be put in operation some time in May. It is located about a mile below the town on the north bank of the Whippany River, just across the line separating Morristown from Hanover Township. Injunction proceedings instituted by Hanover Township have delayed the construction of the work two years, pending the establishment of the validity of the act under which the sewerage system was being built.



Courtesy Newark Sunday Call.

**MORRISTOWN SEWAGE DISPOSAL PLANT**

The plant occupies 10 acres of ground. It consists of four septic tanks, to be roofed over, having a total capacity of 330,000 gallons. From the tanks the sewage will pass over contact beds, of which there are five. Each contains  $1\frac{1}{4}$  acres of broken stone 6 feet deep. From the beds the sewage goes to a series of five sand filters, covering an area of 17 acres all together. The filters are from  $3\frac{1}{2}$  to 4 feet deep. The plant will be one of the largest and most complete in the State.

**An Oil Well in Street Sewer**

Galveston, Tex.—Is it an oil well or is it merely an alarm sent by fate or some other unknown and hidden power that puts crude petroleum in the 20th street sewer? Inspectors opened a manhole of the sewer one day and found oil several inches deep in the twelve-inch concrete sewer pipe and three days later it was found there again. Chief Inspector William Sherwood found it was the real article, and looked about to solve the mystery. There are no oil distributing pipe lines in this street which leaking might let the oil out to seep through the piping to the sewer.

**Installs a Sewage Measuring Device**

Richmond, Ind.—A device for measuring the amount of sewage taken care of at the disposal plant has been installed by Delbert Davis, an assistant in the office of City Engineer Fred Charles. Sewage is discharged onto the beds by four siphons which deliver 4,500 gallons at each overflow. The new invention records the number of discharges per day. It consists of a floater such as is in use in the flush tanks in bathrooms, and a counter. A system of levers completes the arrangement.

**For Clean Street Cars**

Chicago, Ill.—Complaints that the Chicago City Railway Company permits its South Chicago, South Deering, and Windsor Park cars to remain "outrageously filthy" have been investigated and verified by E. R. Pritchard, Secretary of the Health Department. The findings were reported to Corporation Counsel Brundage, who said he would begin separate suits against the company on each complaint.

Columbus, Ind.—An ordinance has been passed by the City Council requiring all vehicles in which passengers ride, whether propelled by animal power, steam or electricity, to be thoroughly cleaned every day, and violations of this ordinance will be punishable with a fine of \$50 a day. The ordinance also provides that the street car barns shall be frequently cleansed and kept in a sanitary condition. This ordinance was introduced at the request of the Board of Health.

Tacoma, Wash.—Seeking to keep the cars it uses thoroughly clean, the Tacoma Railway & Power Company is now having them thoroughly washed and fumigated regularly every ten days. The company also has anti-spitting notices posted in all its cars where they can be plainly seen.

**WATER SUPPLY****Water Main Bursts Over Big Tunnel**

Baltimore, Md.—Southwest and a part of South Baltimore were without water supply nearly four hours March 4, the city's street car lines were stopped over an hour, and traffic in the Belt Line tunnel of the Baltimore & Ohio Railroad was curtailed for a time by the bursting of a 40-inch city water main at Howard and Lombard streets, and 30 yards of street bed about the intersection of Howard and Lombard streets was displaced by the tons of water which spurted up between the stones. Damage amounting to thousands of dollars was done to city property and the tracks of the United Railways and the Baltimore and Ohio Railroad, the latter in the Belt Line tunnel, by the water. Large plants, including those of the Pratt street powerhouse of the United Railways and the A. B. C. Baking Company, were forced to shut off their power for an hour or more on account of their inability to procure water for their boilers. The inconveniences were removed before daylight, however, with the exception of reduced traffic in the Belt Line tunnel, where the south-bound track was badly washed by a heavy stream, which poured in through the roof of the tunnel.

**Town Tax on City Water Lines**

Berlin, Conn.—Representatives of the city of Meriden have asked for the exemption from taxation by the Board of Relief of land into which the reservoirs of Meriden's water supply are located, claiming this land has been set aside for park purposes. The local authorities in retaliation will insist on the taxation of two miles of pipe line which carry the Meriden water supply through the town of Berlin. In taking this action, Berlin enters the same arena with Plainville, Bristol and Southington, which have parallel cases with the city of New Britain. The matter is liable to go to the courts and be thoroughly thrashed out before the matter is ever decided to the satisfaction of both the cities and the towns.

**Private Company Raises Minimum Rate**

Chester, Pa.—Citizens in every section of the eastern end of this county are protesting against the new schedule of water rates made by the Springfield Consolidated Water Company, fixing a minimum rate of \$18 per annum, to take effect on April 1. On February 25 the corporation sent out registered letters to every consumer, notifying them of the new schedule. Formerly a patron having hot and cold water faucets in the kitchen and the same number in a bathroom were charged but \$14 per annum, while a single faucet cost \$10 per annum. Under the new rate the person who heretofore paid \$10 for a single faucet will have to pay \$18, which is the minimum. This entitles the patron, of course, to have a meter, but at the same time if he only uses \$10 worth of water, he must still pay the \$18.

**Rates Set by City Objectionable**

Helena, Mont.—Charging that the ordinance reducing water rates to be charged in Helena, as set forth in these columns, is confiscatory of the property of the Helena Water Works Company, oppressive and unreasonable, C. E. Bockus, receiver of the concern, has applied to the Federal Court for an injunction directed to the city officials restraining them from enforcing the provisions of the ordinance. It is charged that the city has violated an agreement made in 1903 when both the city and the company agreed to abide by the rates fixed by the court and jury following the institution of a suit in the Federal Court to determine on a reasonable rate, based on the plant's value.

**Fort Worth Water Supply Ample**

Fort Worth, Tex.—According to city officials the municipal artesian water supply promises to be ample for next summer and no shortage at any time during the coming warm season is feared. It has not been found necessary to resort to the use of any but artesian water since last July or August and of late the supply has been so bountiful and the consumption so light that the Mead pumps have been shut down every night. A reserve supply of 2,000,000 gallons is always kept on hand for use during emergencies, and the pumps working half time have been found sufficient to furnish all the water needed for daily use.

### Pumping Engines in Service 34 Years

Lawrence, Mass.—The annual report of the Water Board recommends that new pumping engines be installed, especially for use by the high-service system. The Leavitt engines now in use have completed their thirty-fourth year of continuous service. The total consumption of water for the year was 768,538,500 gallons, which, with an estimated population of 82,000, is a consumption of 43.4 gallons per capita.

### Water Works Profits Pay Borough Debt

Lititz, Pa.—Since the borough of Lititz has purchased the water works it has paid off its debt of \$10,000 and reduced the tax rate.

### City to Test Twenty Thousand Water Meters

New York, N. Y.—Twenty thousand water meters in large office and factory buildings will be tested by the Water Department during the next few months. Professor Bemis, Deputy Water Commissioner, has investigated the condition of some of these meters and found they were cheating the city. "Meters become slow after long use," said Professor Bemis, "and that is the condition of many of them in this city. In isolated cases they are tampered with. We are going to try to prevent the waste of water, or effect a money saving to the city, by a thorough test of the meters."

### Toledo Filter Plant in Operation

Toledo, O.—The new filtration plant which has been recently put in operation has had a severe test because the Maumee River has been high and the amount of sand and mud in the water has been about the maximum. However, outside of more frequent washings of filters than would ordinarily be necessary, no harm has been done and the quality of water turned out has been good.

## STREET LIGHTING AND POWER

### Acetylene Gas Explosion Shakes Town

Clay Center, Kan.—An explosion of an acetylene gas plant at Wakefield, in the southeastern corner of the county, killed one man and did much damage around the town. The gas plant was a large one, used to furnish light to the town. The light from the explosion was seen in Clay Center, about 15 miles away, and houses were shaken here.

### Cluster Street Lamps for Milwaukee

Milwaukee, Wis.—Sheriff H. E. Franke's plan for lighting Milwaukee's downtown streets with ornamental cluster standards of five lights each is rapidly approaching a successful issue. Commercial bodies, including the Citizens' Business League and the Merchants and Manufacturers' Association indorse the movement and the subscription lists have, to date, been filling up with the signatures of Milwaukee's most advanced and progressive business men and property owners along the principal thoroughfares. The plan contemplates the ornamental illumination of Grand avenue and Wisconsin street, from the Public Library to the Lake; Third, Second, West Water and East Water streets on both sides of the street; an ornamental cluster on each corner and others through the block at intervals of fifty feet. Milwaukee happens to be the only city of any importance in the United States without this modern attraction; one that is conceded to be the best advertisement that a city can have.

### No More Oil Wells in City Limits

Muskogee, Okla.—Following an indignation meeting of residents of Garrett Heights, who claimed that oil wells were being drilled almost in their back yards, the City Council passed an ordinance making it a misdemeanor to drill a well within the city limits, and causing every day that work went on to be regarded as a separate offence. A fine of \$10 in each case was provided for. Two fires have been caused by the new wells in the last two months and residents feared a conflagration. There are twelve wells in the section, the streets are piled with derricks, etc.; the fumes of gas are causing sickness, the noise of drilling wells, which goes on night as well as day, prevents rest, and oil flowing into yards makes the ground soggy and uninviting to tenants.

## FIRE AND POLICE

### Piers Equipped With Fire Mains

Atlantic City, N. J.—Complying with the provisions of the new city ordinance, passed last year, requiring that all piers oceanward of the Boardwalk be equipped with fire mains of city water supply and pressure, the Steel Pier has announced the turning on of the faucet in the first emergency system of the kind to be installed in this city. By next summer it is believed that every pier along the beach will be equipped with an effective agency for fighting fire. The pipe line on the Steel Pier is 2500 feet long, running out on one side 1700 feet and returning on the other side the same distance, with possibly 100 feet at the turns. The line has a diameter of 3 inches. There is an outlet and a hose connection every 100 feet on either side. This practically gives a nozzle for every fifty feet of pier space and is a big safety factor. Although the pipe line is connected with the city supply and thereby has the city pressure, as required by the ordinance, the Steel Pier, in addition to this, has its own pressure pump, which maintains a pressure of 100 pounds continuously, day and night, independent of the city's system. If a fire should break out on any part of the structure 35 hose lines and nozzles, with a pressure of 100 pounds, could be placed into instant service.

### New Fire Protection Main Tested

Hartford, Conn.—The new 36-inch water main circling the conflagration area, built for the purpose of fire protection, was recently tried in the presence of Mayor Edward W. Hooker, Fire Chief Louis Krug, President Horace B. Clark of the Fire Board, and others. The pressure of the new hydrant tested was normally 80 pounds. The heaviest draught put upon it by two deluge sets, each fitted with a two-inch nozzle—the combined streams throwing about 1,800 gallons a minute—did not reduce the pressure over 10 pounds.

### Big City All Unpoliced for 15 Minutes

Kansas City, Mo.—For fifteen minutes on a recent afternoon—from 5 o'clock to 5:15 o'clock—there was not a patrolman on the streets. They were holding an election to choose delegates to serve the interests of the policemen in obtaining the passage of a pension bill. Each station chose two delegates. These will elect three to represent the city at large. The bill provides for pensions for retired and disabled policemen in St. Louis, Kansas City and St. Joseph. It was referred to the people by the last Legislature and will be voted on in November.

### Paid Department for Lockport

Lockport, N. Y.—Lockport's fire department is due for a big shakeup, as a result of the criticism that followed the petition of the Fire Board for an increase in the fund from \$16,500 to \$19,500. The Aldermen are opposed to granting the petition, because of the general complaint that the department runs several thousand dollars behind each year. It is said that the expense of the department is becoming so great that a paid department of twenty men will probably be installed. At present the department has nine paid men. The Aldermen feel that \$20,000 would maintain a good department.

### Hose Tears Easily

Millville, N. J.—A peculiar accident happened to a line of hose laid by Resolution Hose Company at a recent fire. The line was thrown off and attached to the fire plug and the wagon driven on as usual. It had hardly gone a rod or two when the hose tore off about six feet from the fire plug. What caused the tear no one can explain. This was a comparatively new length of hose, having been bought last July and has had water run in it but twice. It lay on top of the hose wagon and was not bent in any way.

### Cost of Feeding Fire Horses

Wheeling, W. Va.—Since Fire Chief Altmeyer took charge of the Fire Department he has installed a new system of keeping track of the doings of the department. Records of all expenditures, balances in the appropriations, accident accounts, and also expense account are kept. The expense account shows the cost of feeding horses in the department to average 30½ cents per day.



### Rules for New Fire Department

Michigan City, Ind.—The Common Council has had before it an ordinance establishing rules and regulations for the paid Fire Department. The ordinance is a lengthy one in 35 sections and was introduced by Councilman Troy, and, after its reading by Clerk Heise, was referred to the Committee on Streets.

The ordinance provides among other things that firemen shall not visit saloons, shall not speak disrespectfully to their superiors, or fellow employees; shall not spread scandalous or false reports; shall pay their honest debts; shall not be absent from fires, except by permission or illness; shall be held responsible for false alarms received and mistakes made in getting correct number when alarm is sent in; must keep their bed and bedding clean; must not sleep in or around the stations between the hours of 7 a. m. and 8 p. m., except on occasions of illness and where previous night was spent at a fire; must be familiar with alarm boxes, signals and fire plugs; must remain in a conspicuous place when at a fire and not working machinery; must report at 7 a. m. to the captains; will be given 24 hours off once each week, leaving at 7 a. m. and reporting at 7 a. m. next day; must respond however, to second alarm while off duty; must not make or cause to be made duplicate or false keys to fire alarm box; when extra man is engaged his pay must come from the member for whom he substitutes; the captains have no right to contract debts in the name of the city; each company will have a captain, to whom all members thereof must look for instructions, the captains to be held accountable to the Chief and the Board of Public Works; captains must make annual inventory; firemen must be 5 feet 6 inches in height; must not weigh less than 140 pounds; must be between ages of 21 and 37 years, the age limit, however, not applying to those now in service; must be of good health and strong body; must not permit lounging about stations; must not drive over hose unless absolutely impossible to get around it; between April 1 and October 1, must be up at 5.30 a. m., and between Oct. 1 and April 1, must be up at 7 a. m.

The ordinance provides a penalty for violations, embracing either a reprimand, suspension or dismissal, subject to the board of public works.

A fine of \$1 is fixed against those driving over a hose, be he a member or not. For turning in a false alarm a fine between \$20 and \$100 is provided. Persons molesting the wires of the alarm system will be subject to a fine of between \$20 and \$100. Persons backing wagons up in front of the houses so as to interfere with the free movement of the fire teams will be subject to a fine.

### Must Clear Road for Fire Apparatus

Louisville, Ky.—An ordinance to compel all vehicles, of whatever description, to drive to the curb upon the approach of a wagon or other apparatus sounding the fire gong and providing a fine of from \$5 to \$50 for every violation, has been passed unanimously by the General Council.

### Improving Police Signal System

Reading, Pa.—William C. Matthias, Superintendent of Fire Alarm and Police Patrol Telegraph Systems, has completed the construction of circuit No. 4 of the police signal system, which takes in the police patrol boxes in the northeastern section of the city. There are 13 boxes on this circuit. Mr. Matthias has now completed three of the four circuits—Nos. 2, 3 and 4. No. 2 covers the southwestern section of the city and has eight boxes, and No. 3 the southeastern section and has nine boxes. Work on No. 1 circuit, which will cover the northwestern section of the city and will take in 12 boxes, is now under way. The signal system, although incomplete, has been of material help to the department, as, in times of trouble when officers are wanted promptly, the red lights are flashed and there soon are a number of calls from the reporting stations.

### Two New Autos for Omaha Police

Omaha, Neb.—The two new police patrols have arrived and have been put into service. They are heavy eighteen-horsepower machines, built especially for the police department. The maximum speed at which they can be run is twenty-five miles an hour, and they are geared especially for hill climbing and heavy roads. Each one will accommodate ten persons. The bodies are in dark blue, trimmed in white. The running gears are red. On the sides "Police Patrol" is painted in large letters. On the fronts appear the words "City of Omaha." Seats on either side of the cars, extending from front to rear, are upholstered in black leather. The autos are of the Franklin make and were ordered for the city by Guy L. Smith.

## GOVERNMENT AND FINANCE

### Needs of Atlantic City

Atlantic City, N. J.—Mayor Franklin P. Stoy makes the following recommendations in his annual message to Council:

Widening of the Boardwalk and the use of reinforced concrete substructure.

Establishment of pavilion and public comfort stations in Chelsea section.

Improvement of Boardwalk illumination.

Acquisition of all sources of mainland water to purify and increase supply.

Erection of water reservoirs on Absecon Island to guard against emergency.

Permanent resurfacing and paving of Arctic and Baltic aves.

Widening and beautification of Ventnor ave.

Investigation of most approved types of municipal drainage in order to provide adequate drainage facilities on the west side.

Establishment of recreation parks or playgrounds, possibly on the city grounds at Kentucky ave.

Official municipal action looking toward a deeper inlet and suitable harbor facilities.

### Two Kansas Cities for and Two Against Commission Plan

Abilene, Kas.—The commission plan has been adopted by a vote of 441 to 112. There is a probability, however, that the city will wait a year before making the change, as the election is believed to have been irregular, the official notice not having been published at the proper time. Council, by failing to canvass the vote, can let the matter go over, thus avoiding possible legal entanglements.

El Dorado, Kas.—The commission form of government was voted down by a majority of 52.

Hiawatha, Kas.—The commission form of government failed to carry in the election by 75 votes. It was opposed by most of the members of the City Council and the Democrats.

Marion, Kas.—Marion adopted the commission form of government by a vote of 175 for and 57 against.

### Why Laborers' Pay Is Raised

Spokane, Wash.—Basing his recommendations on conclusions that the prisoner in the city jail is better provided for, under the prevailing cost and conditions of living, than the man free and willing to earn a living for himself and family by common labor, Mayor N. S. Pratt has recommended that Council raise the wages of common laborers from \$2.75 to \$3 per day, and teamsters from \$5.50 to \$6 per day. Council dodged the issue when it was first presented by organized labor by referring the matter to the Mayor, who made a personal investigation before taking the action outlined above. The increases will cost the city \$10,600 per annum.

Minneapolis, Minn.—Council, by ordinance, has decreed that on all public work done by day labor for the city eight hours shall constitute a day's work and \$2.25 shall be the minimum price paid therefor, and 59 cents per hour for team work.

### Municipal Finance in New Jersey

Trenton, N. J.—New Jersey's Conference of Mayors has recommended a plan providing for the adoption of a uniform system of bookkeeping in all municipalities. It contemplates the appointment of a State Auditor, who, personally or through assistants, shall examine the accounts of every county and municipality. A plan for limiting bond issues was also considered. This provided that issues of bonds should not exceed 2 per cent. of the ratables in counties; 7 per cent. in cities, and 10 per cent. in boroughs and other municipalities. It also provided restrictions as to the purposes for which bonds should be issued.

### Finance Committee Will Economize

Youngstown, O.—Upon motion of James Ewing the finance committee will make a complete investigation of all departments in the city, with a view of cutting down the expenses, and the number of positions. In cases where it is found that two men are doing one man's work, a cut will be made. The same with the salaries. The water works, filter plant, market house, crematory, street department, etc., will all be examined.

## STREET CLEANING AND REFUSE DISPOSAL

### Cost of Snow Removal Reduced

Cincinnati, O.—Street Cleaning Superintendent Frederick Maag has submitted to Service Director Sundmaker a report of the work done by his department in cleaning up the snow and ice of the four snowstorms which occurred since January 1. A notable feature is the showing that Mr. Maag has been able to reduce the cost of the work from 39½ cents per cubic yard, the cost last year, to 28½ cents per cubic yard. During January 31,233 cubic yards of snow and ice were removed, at a cost of \$9,833.10, while during February 51,008 cubic yards were removed at a cost of \$13,599.02, making a total of 82,241 cubic yards hauled, at a total cost of \$23,432.12.

### Dust Will Blow Till May

Kansas City, Mo.—Complaint is being made about the dusty condition of some of the boulevards. According to explanations of the Park Department, this is the season when the effect of the last oiling has about worn off. The drives cannot be reoiled until May, when there will be sufficient warmth to cause the absorption of the oil by the paving material. It is said that to oil the boulevards now would make a smear which would soil vehicles and garments. The sprinklers are equipped for oil. It is said that sprinkling with water is unsatisfactory after roads once have been oiled.

### Why Jersey City Streets Are Not Clean

Jersey City, N. J.—At a meeting of the Square Deal Democratic Association, President Thomas M. Donnelly explained why the streets of the city were not maintained according to the high standards of cleanliness. He said:

The territory under the care of the Street Cleaning Department, and which is supposed to be kept at least reasonably clean, embraces something over 202 miles of streets and for the fiscal year, which will end Nov. 30, 1910, the department has been allowed by the Mayor's Board of Finance 110 men to do the work and \$148,343, which amount includes \$6,418 for the horse, wagon, machine, cart, harness, feed, medicine and insurance accounts—leaving only \$141,925 for the yearly operations of actual cleaning, out of which amount must be taken office expenses and the cost of superintendence. It will therefore be seen that with only 110 men to clean 202.64 miles of streets one man must on an average clean 1.84 miles, which is much too large a territory to permit of effective work being performed. Suppose the cleaning of the guttered and unimproved mileage were eliminated from this argument, we would still have 124.85 miles of streets made up of granite, Belgian, asphalt, brick and wood, which necessitates constant attention at the hands of the street cleaners. This mileage, based on a force of 110 men, requires one man under ordinary circumstances to keep 1.14 miles of street in a clean condition, this without taking into consideration snow and other extraordinary features.

### Garbage Collection Under New System

Los Angeles, Cal.—Garbage collection under the new system began March 1. Charles Alexander, whose contract with the city became effective, sent twenty wagons into the residence districts early that morning for collections. Besides these, ten wagons will make trip through the central part of the city at night, to take the garbage from restaurants and hotels. Many of the larger hotels and restaurants will not be visited until the outcome of the suit filed by P. J. Durbin in the Superior Court is decided. The new wagons are of special design, water-tight and holding each three cubic yards. On their return from collection trips they are taken to a station which Alexander has established in the Pacific Electric Railway's freight switching yards, at Anderson and Aliso streets, and dumped by means of a derrick into the freight cars and taken to a point five miles outside the city limits, according to the requirements of the contract. Under the new system householders will not be required to place their garbage cans on the curb outside their houses. The contractor's collectors will take the cans from the premises at stated times.

### City Divided Into Street Cleaning Districts

New Haven, Conn.—Director of Public Works Eames has divided the city into eight districts, with a gang of street cleaners assigned to each, under a foreman who will be personally responsible for the appearance of the streets in the section of which he has charge.

### Joliet to Flush Streets with High Pressure

Joliet, Ill.—With the installation of the independent high-pressure plant the city officials, particularly Mayor Cronin and Superintendent of Streets Henry Rub, see a new use for the system. They are laying plans for the use of the water in flushing the downtown pavements each night. The cost will be small and the force of the street cleaning detail will be lessened to a few in the downtown section, which will allow the use of the men in other parts of the city. The work can be done after midnight and in a few hours. In the course of a few nights the dust on the streets during the day will be done away and the necessity of sprinkling in the loop will also be done away with, and the alleys and streets can be covered in three hours and in a manner much better than the methods in vogue. A few hundred feet of old hose and a nozzle discarded by the fire department is all that will be needed. The hydrants will be placed at street corners and alley intersections and this will enable the men to work more effectively.

### How Philadelphia's Streets are Littered

Philadelphia, Pa.—As a result of the experience of the present winter, which has developed some tremendous problems in street cleaning, Councils may be shortly asked to pass some rigid restricting ordinances. Chief Virdin, of the Street Cleaning Bureau, has found that with practically unlimited funds it would be impossible under present loose methods to keep the streets cleaned. Householders in many sections are proving habitual offenders, throwing not only ashes, but all sorts of refuse and garbage in the streets. Large stores, too, he says, deposit the entire day's sweepings in the street nightly, and further take advantage of every slight storm to save cartage charges on ashes by dumping it over the streets nearby.

### Clean Up or Jail

Omaha, Neb.—Health Commissioner Conner is sending out notices ordering the construction or providing for metallic or brick receptacles for ashes and other refuse which shall be cleaned out as often as filled. Objection is made that ashes do not create an unsanitary condition, but the health officials hold that they help create such a condition, and they will prosecute those who fail now to live up to the provisions of the ordinance, which has been dormant since its adoption two years ago.

### Littered Streets Preventable by Law

Providence, R. I.—Owners of billboards, storekeepers and individuals are responsible for the waste paper nuisance on the public highways, says the Commissioner of Public Works, Walter F. Slade, who admits that the complaints presented at the City Hall are justified. Conditions are growing worse, the Commissioner believes, and the increasing accumulations of old paper are costing the taxpayers considerable money. The Commissioner said that the paper is thrown into the streets faster than the city wagons can haul it away, and that the remedy is in enforcement of the law prohibiting the placing of waste paper on the highways or where it can be blown upon the street. "The billboards are responsible for much of the trouble," said Commissioner Slade. "The old paper is torn off and left in the streets. Sometimes the bill posting men roll it up into bundles and put it into the catchbasins and choke the sewer traps. Many storekeepers sweep their waste paper and other rubbish over the sidewalk and on the pavement. People generally throw paper wrapped around their packages on the sidewalk. Theatre patrons drop programs in the streets, and newspapers left in the electric cars are deposited on the highways by conductors. I have seen conductors doing this. Tobacco wrappers and paper used in packing fruit are found in heaps opposite tobacco and fruit stores, and people who pick up circulars and other advertising matter in stores scatter the paper all along the sidewalks." Commissioner Slade has called the attention of Mayor Fletcher to the matter and the Mayor is expected to communicate with the Board of Police Commissioners on the question of enforcing the ordinance. The cost of cleaning the streets has increased steadily for several years. The amounts are: 1898, \$56,160; 1902, \$58,210.87; 1905, \$64,697.99; 1907, \$68,677.41, and 1909, \$80,424.73. The increase of 1909 over 1907, Commissioner Slade says, is much in excess of the extra cost of the nine-hour day.



### New Collection System at Salt Lake

Salt Lake City, Utah.—A new garbage collection system has been inaugurated by James E. Flynn, in charge of the Sanitary Department of the Board of Health. The city has been divided into six districts, excluding Main street and the business district, which will have daily collections, and each of these will be visited on a specified day of the week. The collection is to start at 8, and if garbage is not out when the wagon comes along, it will not be taken up, and if the practice is continued, Mr. Flynn says, he will start prosecutions on charges of maintaining nuisances. Garbage must be placed in a receptacle with a cover, and ashes must be in another receptacle. The department will refuse to remove garbage from receptacles which, with the garbage, weigh more than one man can handle. The limit will be about 100 pounds.

### Women to Keep Trash off Streets

Washington, D. C.—In accordance with the suggestion and invitation of the special committee, headed by Mrs. Frederick V. Coville, representing the women engaged in the movement for a "Cleaner Washington," the Century Club has agreed to distribute 5000 circulars to the housewives of Washington, asking their co-operation in keeping trash off the streets, parking and parks of the city. The Collegiate Alumnae has also offered to distribute 1,000 circulars with the same object in view, and the Equal Suffrage Association has given assurance of its help in the work which is destined to make the capital of the nation the cleanest city in the country. The efforts of the women are being chiefly directed to having housekeepers generally provide covered boxes or receptacles for their old paper and other rubbish, so that it will not be blown out of the alleys and into the streets to litter the sidewalks and beauty spots around the home. The suggestion of the Superintendent of Street Cleaning that observers notify him by telephone whenever they see one of his trash wagons uncovered, giving the hour, locality and number of the wagon, may check any evidence of carelessness on the part of those whose business it is to help keep the city clean. Splendid results, it is declared, were accomplished by similar efforts on the part of the ladies last year.

## RAPID TRANSIT

### New Ventilating Device

Detroit, Mich.—The D. U. R. is experimenting with a new heating device and ventilator which may result in overcoming the unsanitary conditions existing in the cars of the company. The new apparatus takes the old air out of the car and pumps new air in, the air remaining fresh even with smoking in the car. At the same time there is no draft to affect the passengers.

### City and Street Car Figures Differ

Kansas City, Kan.—Records of the movements of street cars, prepared by city employees, were objected to as "incompetent and irrelevant" by attorneys for the Metropolitan Street Railway Company in the hearing of the mandamus suit brought by that city to force the street car company to improve its service. The objections in each instance were overruled by Eugene Ware, special referee appointed by Judge Fischer of the Wyandotte County District Court. The time sheets prepared by the employees of the city show that the street car service has been far below the standard fixed by the franchise on practically every line in the city since January 1. The franchise requires a 3-minute service on the Quindaro Boulevard and Chelsea Park lines in the hours when laborers are going to and from their work and a 5-minute service the remainder of the day. City employees reported that the schedule in the busy part of the day was five to six minutes and eight to ten minutes in the middle of the day. Conditions on the Fifth Street line were as bad as on the Quindaro Boulevard and the Chelsea Park lines. On the Argentine line, where a 5-minute service is required by the franchise, the service was ten to twenty-five minutes. In rebuttal the street car company will introduce in evidence time sheets taken from the records at the car barns. They do not agree with the records made by the city, but make a better showing for the company.

### "L" Reform in Chicago

Chicago, Ill.—Through routes and loop transfers on the elevated roads moved forward apace as a result of the meeting in Mayor Busse's office last week. An Elevated Road Commission is to be the immediate outcome. At first it will consist of eight members, two representatives of each of the four roads. Later representatives of the city will be added. The commission of eight railroad men will formulate a comprehensive statement of what the roads will grant in the way of through routes and transfers. At the same time they will make clear the changes which the roads would like to make in the way of extended platforms downtown or other improvements of the service for which consent of the city is a necessary preliminary. Relocation of certain of the steel columns on downtown corners is the only other change so far asked of the road officials. The points of greatest importance are four in number and were laid before the Corporation Counsel's office a little more than a year ago in this fashion:

Has the city of Chicago the power to prevent the carrying out of any agreement between the different railroad companies using the union "loop," which, in effect, restricts the maximum capacity of the "loop," or which provides for the use of the "loop" by the various companies in such a way as to be contrary to the public interest?

Has the city of Chicago authority to compel a routing of cars on the "loop" that will give to the "loop" its maximum capacity for the accommodation of trains?

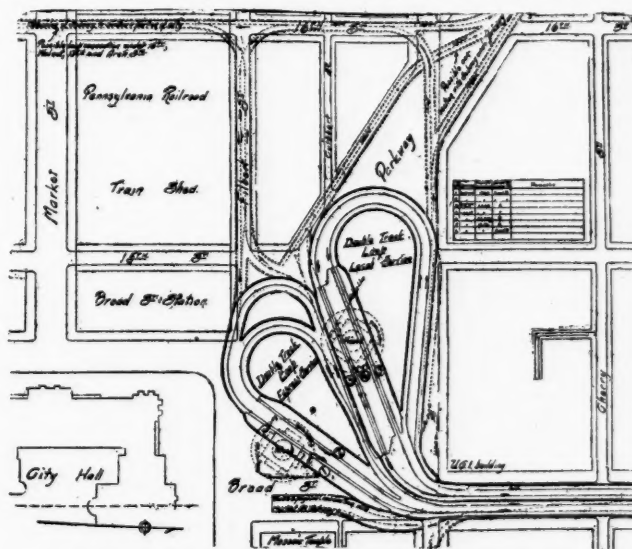
In order to secure the maximum amount of service demanded by the public from the elevated roads, has the city of Chicago the power to compel one company to route its cars over the line of another?

Has the city of Chicago the power to compel the different elevated railroad companies to give and accept transfers?

Edwin H. Cassels, then Assistant Corporation Counsel, answered the first two affirmatively and the latter pair negatively. The remedy for the latter lies in the Legislature, he asserted. Moreover, he claims the city has the power to compel abatement of the noise nuisance on the "loop."

### Proposed Terminal for Subway

Philadelphia, Pa.—The Philadelphia and Suburban Elevated Railway Company, which is an applicant for a franchise to build a rapid transit subway on Broad street and



SUBWAY TERMINAL, 40,000 PASSENGERS PER HOUR

other lines, has submitted a plan for a terminal at the City Hall, capable of handling 40,000 people an hour. This will be accomplished by means of loops and platforms long enough to accommodate 10 cars.

### Relief for New York Straphangers

New York, N. Y.—For the first time there is a prospect that every subway passenger in New York will have a seat—at least during the dull hours. The Public Service Commission last week gave the Interborough Rapid Transit Company positive orders to furnish the maximum possible service during the rush hours, and sufficient cars during the noon rush hour to afford every passenger a seat.

## MISCELLANEOUS

### Organize and Defy Vaccination

Atlanta, Ga.—Offering defiance to the city's compulsory vaccination order, under which within the past three or four weeks approximately 80,000 of Atlanta's residents have been inoculated, an anti-vaccination league has been organized. A dozen policemen and the City Health Officer appeared on the scene, the names of the members of the league were carefully written down, and it is expected that the belligerents will be hauled before the Recorder's Court and given the alternative of a prison sentence or vaccination. R. B. Ryan Harrison, president of the league, announced that the members had nothing to fear from the city authorities.

### Pennies of Citizens Pay Mayor's Fine

Hoboken, N. J.—Mayor George J. Gonzales was fined \$100 by Judge Blair for contempt of court in that before the Grand Jury "his manner was highly unbecoming and his words highly insulting and contentious in imputing to the Grand Jury corrupt methods and an intent to violate its sworn duties." The citizens of the town raised the fine by each of ten thousand contributing one cent.

### No Girl Newsboys for Holyoke

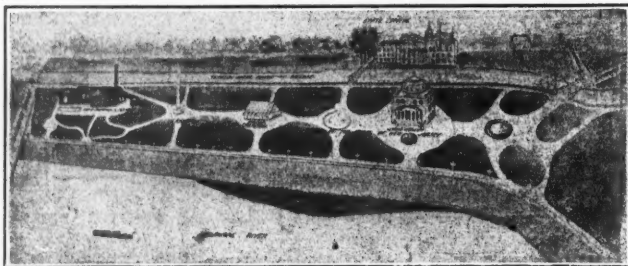
Holyoke, Mass.—This city is to adopt an ordinance that will prevent all girls from selling the papers and will fix a minimum age limit for newsboys. It is expected that no fee will be charged for the registration, but a small cash deposit may be required for the badges that it is intended to issue to the registered boys. These badges will contain a number that will be recorded at Police Headquarters and will serve to identify the boys when any complaints or need of action arises.

### Georgia City Adopts Traffic Rules

Macon, Ga.—Road rules will now be enforced on the streets of Macon, as they were promulgated and adopted at last week's meeting of Council. The policemen will each be furnished with a copy of the rules and instructed to study them, and to make an arrest of each violator. They are similar to those in force in Washington, D. C., notably, and in many other cities of the country.

### City and State to Join in River Park

Trenton, N. J.—There has been introduced in the Legislature a bill authorizing an appropriation of \$60,000 for the completion of the State Capitol Park. The site of the proposed park is at present merely a dumping ground, but its artistic possibilities are attractively presented in the picture reproduced herewith. The State Capitol Park is to extend from the mouth of the Assanpink Creek to the westerly boundary of the State House property, where it will join



TRENTON'S PROPOSED RIVER FRONT IMPROVEMENT

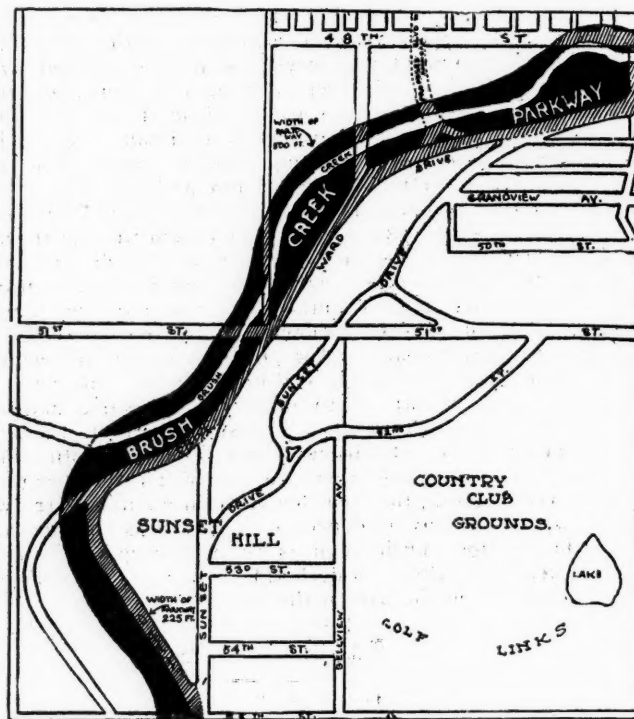
the park which the city plans to create there. When accomplished this will mean a park of twenty-two acres lying between the Delaware River and water power plant, and extending from the Assanpink Creek to the pumping station. In connection with the work of developing the river front of the city of Trenton, it is a curious fact that the scheme of treatment, without premeditation, has been divided into two parts. One of these may be spoken of as utilitarian, embracing the deeper waterways project, extending from the lower bridge to the foot of Riverview Cemetery. The second part extends from the Assanpink Creek to the westerly limit of the city of Trenton, and its treatment is of an æsthetic character.

### Thirty-Foot Wall for Flood Protection

Pittsburg, Pa.—A concrete wall, thirty or more feet in height, around Pittsburg, protecting all those portions of the city which are subject to overflow, may be built as a result of the recommendations of the engineers of the Flood Commission. Later on, with the additional object of aiding navigation and industry, a number of reservoirs may be built in the mountains of West Virginia and northern Pennsylvania. The dams will be the joint work of State, nation and city. The walls needed as a means of immediate protection must be constructed by the city alone.

### Sixty-Acre Park Gift to City

Kansas City, Mo.—Land on both sides of Brush Creek has been given to the city by the Ward Investment Company for a park. The tract extends southwesterly from Forty-eighth street and Wornall Road to Fifty-first and



PARK LAND GIVEN TO CITY BY REAL ESTATE COMPANY

Terrace streets and south to Fifty-fifth street and Sunset Drive. The parkway is an extension of the Mill Creek parkway.

### City Natatorium to Keep Boys at Home

Independence, Kan.—In order to keep the swimmers at home this summer the Commercial Association is making plans to establish a large swimming pool at some suitable place in this town. Coffeyville has a large pool, and it has been the custom of many Independence people to take the interurban to the neighboring town several times a week during the hot months in order to enjoy paddling around in the cool water. Members of the Commercial Association feel that citizens should have such pleasures at home instead of having to go away for them, and it is planning to fill the long-felt want this summer. The pool probably will be built in the South Side Park.

### Tree Planting in Texas

Bluffdale, Tex.—The Home Civic Improvement Society has secured more than 100 trees to be used in beautifying the town.

Colorado, Tex.—Tree planting is the order of the day now. Several hundred shade trees have been planted this month and many more have been ordered. There is such a difference of opinion as to the best tree for this section that no uniformity is used as to the variety.

San Angelo, Tex.—One hundred trees were planted upon the grounds of four public school buildings last week. This work is the result of the City Development Committee of the Chamber of Commerce, which secured the trees by individual donation of trees by citizens. The tree planting campaign will be extended to other public grounds and to the city in general.



**Safe and Sane Fourth of July**

Haverhill, Mass.—The Municipal Council has joined in the movement for a "safe and sane" Fourth of July by passing an order regulating the sale and use of fireworks. The order was prepared by Alderman Bean and its provisions are stricter than those that have been adopted in other municipalities in the State. The sale of fireworks is restricted to the two days previous to and on the Fourth and the discharge of firecrackers is restricted to the hours of 4 to 10 a. m. and 6 to 9 p. m. on the Fourth. The use of fireworks is also prohibited excepting between the hours of 7:30 to 10 p. m. on the Fourth. Under the order as adopted by the Municipal Council, the sale and discharge of recoiling toy cannons, canes with explosives and firecrackers over three and one-half inches long and a half inch in diameter is forbidden.

Trenton, N. J.—Former Mayor Welling G. Sickel has been made chairman of the city's special Fourth of July committee to provide an appropriate Independence Day programme. Councilman Clinton J. Swartz, the Secretary, has received information from several cities as to the manner in which they celebrated the Fourth in a safe and sane manner. The exercises as a rule consisted of parades, patriotic addresses, songs by school children, athletic events and fireworks in the evening. In Frankford, Pa., they have, in addition to the other features, a balloon ascension.

Wilmington, Del.—"A safer and saner Fourth of July," it is expected, will be brought before City Council at an early date, as Chief of Police Black has gone on record for a quieter observance of the day and prominent citizens favor less noise.

**Trying to Silence Chicago**

Chicago, Ill.—A movement to make Chicago "a noiseless city" came one step nearer realization when Chief of Police Steward issued an order for the rigid enforcement of the city's anti-shouting ordinance. This means that peddlers must not shout their wares, as the edict prohibits the calling and shouting for the purpose of attracting attention or inviting the patronage of any person to any business whatsoever.

**Weights and Measures Law for Pittsburg**

Pittsburg, Pa.—An ordinance has been introduced in Council for the inspection of weights and measures. There are to be no fees for the first inspection, but on the second inspection the fees are to be as follows:

Five cents for all measures for length or capacity, whether dry or liquid; 25 cents for weights up to 250 pounds; 50 cents for weights up to 2,500 pounds; \$1 for weights up to 40,000, and \$3 for weights over 40,000 pounds.

**City Moves for Safe Auto Garages**

Ventnor, N. J.—Owners of gasoline-propelled automobiles residing in the city will be obliged to build special garages for the storage of their machines in accordance with the new building ordinance. An amendment proposed by President H. G. Harris to guard against the danger of fire from having gasoline, naphtha, or benzine within buildings used for dwelling purposes stipulates that:

All places used for the storage or keeping of gasoline, benzine or naphtha, or the storage of automobiles, shall not be within five feet of any property line or within ten feet of any dwelling already constructed; nor shall any gasoline, benzine or naphtha, or automobile be stored in or on any dwelling or part thereof.

**Public Garage a Nuisance**

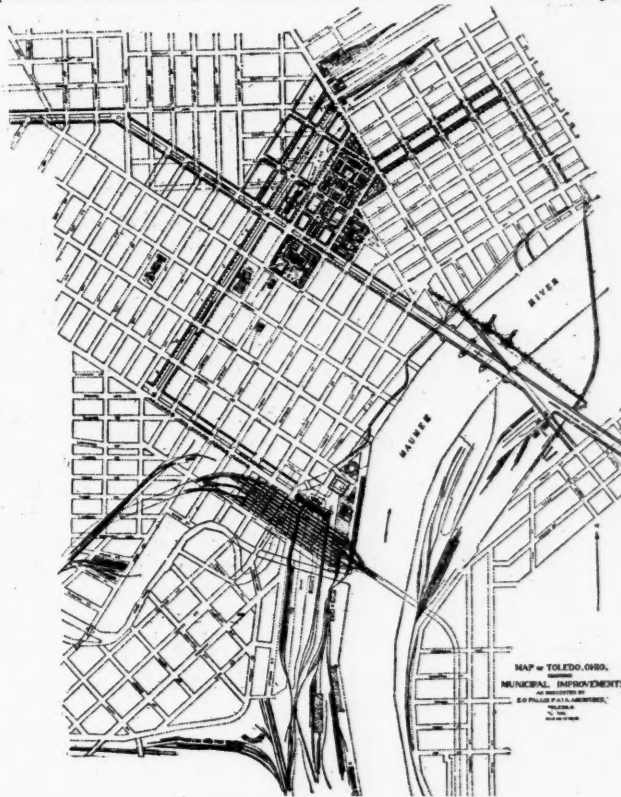
Washington, D. C.—Chief Justice Clabaugh has sustained the validity of the building regulation which requires that no public automobile garage may be established or maintained without the consent of the property owners in the immediate vicinity. Charles Early December 17, 1908, secured a permit to erect a private garage in the rear of 2118 Eighteenth street, and when the building was completed arranged with the Automobile League of America to allow them the use of the garage. Information was filed in the Police Court charging him with conducting a public garage without a license, and while the proceeding was pending Early applied for a writ of mandamus to compel the Assessor to issue a license, which that officer had declined because the necessary consent of property owners had not given their approval.

**Bill for a City Plan Commission**

Baltimore, Md.—In line with the plans for a handsomer Baltimore, Mayor J. Barry Mahool has delivered to Chairman Carr, of the Baltimore delegation, a bill creating a commission on city plans for Baltimore, which shall have authority to pass on programs for municipal street development. The commission is to serve without pay, is to be appointed by the Mayor, and is to consist of nine members, including the Mayor. It may appoint a secretary, to be paid such a salary as may be prescribed by ordinance of the City Council. The proposed commission is directed not only to pass on plans for street extensions, but on any plans contemplated for a municipal civic center.

**Toledo City Plan**

Toledo, O.—A plan for Toledo has been presented to the Business Men's Club by Architect E. O. Fallis. Wide parked avenues to connect the extremities of the city, a



SUGGESTED PLAN FOR TOLEDO, O.

great public forum as a center for a group system of buildings, a monumental bridge and a great railroad system are prominent features.

**Civic Association's Work as Architect for Cities**

Washington, D. C.—The American Civic Association, which recently established offices in this city, reports that there is a widespread awakening to the need of broader ideas as to city planning. A new profession has developed which bears the same relation to city building that the profession of architect does to house building. Modern cities have learned that development from the village era means something more than a mere increase in houses and population. Washington, the first American city to be planned before it was built, continues to be an inspiration to city builders. With Washington as an exemplar, Chicago has spent \$75,000 to get plans for civic betterments which will cost well up toward \$100,000,000. Boston has its 1915 movement. St. Paul has secured plans which, if adopted, will give a dignified setting for its State capitol building. San Francisco, Detroit, Cleveland, Norfolk, Rochester, Reading, Minneapolis, Cincinnati, St. Louis, San Diego, Spokane, Birmingham and many other cities all have taken steps in the direction of better civic planning. Dallas is ambitious to unite utility with art in its future development. And now comes Seattle, which city has ordered an election on the proposal to create a municipal plans commission of twenty-one members and to levy a tax of one-fourth of a mill on the dollar to create a fund to be at the commission's disposal for retaining expert advice.

## LEGAL NEWS

### A Summary and Notes of Recent Decisions—Rulings of Interest to Municipalities

#### Contracts—Acceptance of Bids

**Platte City vs. Paxton.**—Where a city ordinance was passed authorizing a street improvement, and plaintiff submitted a bid for the work, which was accepted by resolution providing that the work be completed within 30 days, this provision did not inject a new condition into the contract so as to render the acceptance incomplete, since the ordinance, not specifying a time for the completion of the work, by implication required it to be done within a reasonable time, and the designation in the resolution of 30 days, which was a reasonable time under the circumstances, constituted no new element, and the ordinance would control over a resolution accepting a bid for performance of the work, and providing that it be completed either in an unreasonably long or short time, so that that part of the resolution should be considered as surplusage.—Kansas City (Mo.) Court of Appeals, 124 S. W. R., 531.

#### Breach of Contract—Pleading

**Ryan vs. City of Boston.**—In an action for breach by a city of a contract for the construction of a sewer, even though plaintiff failed to comply with the Statutes of 1903, requiring, if it does so require, the Superintendent of Streets, or other officer by appointment of the Mayor, constructing a sewer, to file in the Registry of Deeds, before beginning the work, notice of his intention, naming the street or otherwise describing the land in which it is to be laid, and the Statutes of 1891, which by amendments include the construction of sewers, requiring, if it does so, that the Superintendent of Streets, where he allows any of the work described to be done in any year after the 15th of November, to certify in a writing approved by the Mayor, and kept on file in the office of the Superintendent of Streets, that public necessity required the work to be done, defendant could not avail itself of this defense under an answer containing only a general denial with a plea of payment.—Supreme Judicial Court of Massachusetts, 90 N. E. R., 581.

#### Street Improvements—Abutting Property—Assessment

**Millan vs. City of Chariton.**—Code, section 810, authorizes the Council to direct that abutting property be assessed to pay the cost of street improvements. Section 817 authorizes the Council to assume the cost of street improvements at the intersection of streets and one-half the cost at spaces opposite streets intersecting, but not crossing. Section 820 authorizes the Council upon completion of the improvement to ascertain what portion of the costs shall be, by law and the ordinance or resolution, assessable upon abutting property. Plaintiff's lot abuts on W. avenue, and is directly opposite and of the same width as G. street. An ordinance was passed to pave G. street and the cost assessed against the abutting property, except the cost of street intersections which was to be paid by the city. Held, that plaintiff's property was subject to assessment for a proportionate share of the cost, since the proportion of the costs to be assessed against any particular property is not ascertained by determining the expense of that part of the improvement on which it abuts, but the proportion of the entire cost which each parcel of property should bear is taxed against it.—Supreme Court of Iowa, 124 N. W. R., 766.

#### Defective Streets—Misleading Notice

**Berndt vs. City of Cudahy.**—Whether one giving to a city notice of injury, as required by the Statutes of 1898, intended by the misdescription of the defect in the highway causing the injury to mislead, or whether the city officers were misled thereby so as to defeat the right of action, held, under the evidence, for the jury.—Supreme Court of Wisconsin, 124 N. W. R., 511.

#### Enforcing Illegal Ordinance—Liability

**Franks vs. Town of Holly Grove.**—An incorporated town is not liable for the acts of its Mayor and Marshal in enforcing, without malice, an illegal ordinance by imprisoning one violating it.—Supreme Court of Arkansas, 124 S. W. R., 514.

#### Sewers—Liability for Injury to Property

**Thompson vs. City of Winona et al.**—A private corporation under contract with a city conducted a sewerage system through the streets, which emptied into a creek beyond the corporate limits upon which plaintiff's farm was situated, and the current of which was not sufficient at certain times to carry off the sewage, thus making a disagreeable odor, and making the water unfit for animals to drink. The city, by ordinance, compelled residents thereof to connect with the sewer, and imposed a penalty for not doing so. Held, that since the construction of the sewer by the private corporation would have been harmless if the city had not compelled connection therewith, it was liable for damage to plaintiff's property, though the corporation might also be liable.—Supreme Court of Mississippi, S. R., 129.

#### Condemnation of Land—Proceedings

**Roehl vs. City of Milwaukee.**—The Statutes of 1898, relating to proceedings for the taking of land for highways, provides that no final order or resolution taking or affecting land shall have any effect, or be notice to any subsequent purchaser, unless a certified copy thereof, giving a full and accurate description of the land affected thereby, and accompanied with a map, be recorded in the office of the Register of Deeds, and that a certified copy of any resolution or order made by anybody, whereby land shall be taken or affected without an application having been made therefor, shall have no effect, and not be notice to any subsequent purchaser, unless the resolution or order be recorded. Held, that where proceedings were taken without application by the Aldermen of a city, and the resolution declaring the necessity for the improvement was the only proceeding recorded with the Register of Deeds of the county, the proceedings were invalid, as under the statute it was necessary that the final resolution or order describing the lands, and accompanied with a map, should have been filed in the office of the Register of Deeds.—Supreme Court of Wisconsin, 124 N. W. R., 400.

#### Defective Approach to Crossing

**Connell vs. City of Canton.**—The construction of a plank approach six feet long, and sloping ten inches in that distance from a sidewalk to a street crossing, was not as a matter of law a negligent construction, but the question of negligent construction was for the jury, especially where an engineer testified that there was too steep a pitch if the circumstances would allow a better one, and there was evidence that the local conditions were not such as to require a construction with a fall of ten inches or more.—Supreme Court of South Dakota, 124 N. W. R., 838.

#### Defective Street—Liability

**Tabor vs. City of Buffalo.**—Where, in an action for injuries to a traveler driving into a hole in a street, the evidence showed that an abutting owner had under permission of the city made an excavation in the street subject to a penalty for failure to restore it to its former condition, that the excavation was partly filled with frozen earth, that warm weather and rains had caused a depression filled with water, and that for 11 hours before the accident a hole existed, a charge that the jury could not as a matter of law find constructive notice on the part of the city of the existence of the hole at the time of the accident was erroneous.—Supreme Court of New York, 120 N. Y. S., 1091.

#### Change of Grade—Liability

**Ettor et ux. vs. City of Tacoma et al.**—In the absence of statute a municipal corporation is not liable for damages resulting from the original grading of a street, either within the original corporate limits or in any addition thereto; the original grading of a street not being a taking or damaging within the Constitution, prohibiting the taking or damaging of property for a public use without compensation.—Supreme Court of Washington, 106 P. R., 478.

#### Public Dock—Private Use

**People ex rel. Swan vs. Doozee et al.**—Where a municipality as authorized by the Laws of 1903, purchased a dock for public use, taking title in the name of the trustees of its town lands for the use of the town, these trustees had no power to allow the use of part of the dock to private persons for the conduct of private business.—Supreme Court of New York, 120 N. Y. S., 962.



## NEWS OF THE SOCIETIES

**South Dakota Engineers and Surveyors' Society.**—A new State society was organized at the Hotel Royal, Huron, March 3, by name the South Dakota Engineers' and Surveyors' Society. A good attendance evidenced the fact that the engineers and surveyors of the State are interested in the organization of such a society. Officers were elected as follows: S. B. Howe, of Sioux Falls, president; B. E. Lovejoy, of Redfield, vice-president; D. C. Washburn, of Aberdeen, secretary and treasurer; R. H. Townsend, of Fort Pierre, and E. K. Mather, of Mitchell, members of the executive committee. The charter members of the association were as follows: D. C. Washburn, Aberdeen; J. W. Kolb, Vermillion; E. K. Mather, Mitchell; R. H. Townsend, Fort Pierre; B. E. Lovejoy, Redfield; John Banks, Huron; E. F. Higbee, Huron; R. B. Easton, Aberdeen; J. C. Carpenter, Watertown; S. B. Howe, Sioux Falls; J. L. Wagner, Sioux Falls; J. W. Johnson, Sioux Falls; John L. Nelson, Mitchell; D. H. Brewster, Woonsocket; Holden Cook, Huron. The next meeting will be held in January, 1911, at Watertown.

**Indiana Sanitary and Water Supply Association.**—At the annual meeting, Indianapolis, February 25-26, the following officers were elected: H. E. Barnard, president; D. R. Guinn, Terre Haute, and H. A. Dill, Richmond; J. B. Marvin, Frankfort; Severance Burrage, Lafayette, and Elkanah Hulley, Marion, vice-presidents; Frank C. Jordan, Indianapolis, permanent secretary-treasurer.

**Washington Chamber of Commerce.**—A meeting of the delegates of twenty-five citizens' associations will be held in the Chamber of Commerce the evening of April 16 to organize a central body for the discussion of matters of public interest affecting the District of Columbia. The Chamber of Commerce committee of fifteen, which met with a representative gathering of association presidents, will report the proposition to the full chamber. The committee of fifteen sent notices to the citizens' associations, inviting each of them to send delegates to the meeting to discuss the proposition of establishing machinery through which the people of the District of Columbia may express their desires in legislative and administrative matters. The discussion hinged upon a resolution that it would be expedient and desirable to call a deliberative body composed of representatives of the various organizations to be established on a basis of equal representation for each of the organizations. It was finally decided by the meeting that each one of the delegates present should go back to his organization and urge the election of one delegate and one alternate, authorized to meet and form a central association. The constitution and organization of this central body is to be left to the meeting of April 16. The associations represented were as follows: Anacostia, Benning, Brightwood Park, Citizens' Northwest Suburban, Columbia Heights, Congress Heights, Deanwood, East Washington, Georgetown, Ivy City, Lincoln Park, Meridian Hill, Lanier Heights, Mount Pleasant, North Capitol and Eckington, Northeast Washington, Northeast Suburban, Park View, Petworth, Randle Highlands, Takoma Park, Burrville and the American Institute of Fine Arts.

**Montana Good Roads Association.**—Governor Edwin L. Norris has approved the movement for a State convention to discuss the "Good Roads" movement and formulate plans for legislation in the near future for the benefit of this particular class of interests in Montana and the Northwest. A proclamation will be issued from the Governor's office calling for a convention to be held in Billings, June 15-17, 1910. One of the features of this convention will be the planning of a State road to be run from the State line on the east through the State via the National Park. For a great part of the way this road will cover the old Lewis & Clark trail. From Billings west to the Rocky Mountains it will be located along the line of the historic Bozeman trail. When this great causeway is perfected there will be an effort to establish a road through the National Park for the exclusive use of automobiles. States east of Montana will be asked to join in promoting a succession of State roads, which, together, shall cover the Northwest, thus making trips to the park and other scenic portions of the Rocky Mountains one of the special features of national automobilism.

**American Water Works Association.**—Walter H. Van Winkle, chairman of the transportation committee of the Water Works Manufacturers' Association, announces that at a meeting, March 4, at the Astor House, New York City, it was decided that they take the 4:03 p. m. train on Saturday, April 23, from New York over the Pennsylvania Railroad, arriving at New Orleans on Monday, April 25, about 7:50 a. m. The intention is to arrange for a special train if enough people can be secured, so that guarantees can be given the railroad. If not extra cars will be put on the regular train. Mr. Van Winkle's address is care of Water Works Equipment Company, 50 Church street, New York City.

**League of Kansas Municipalities.**—On May 18 and 19 the first meeting of Mayors and other officials of Kansas towns and cities will be held in Wichita. The meeting was arranged between Mayor C. L. Davidson of Wichita, Mayor William Green of Topeka and Professor Gates of the Chair of Political Economy of the State University. At this meeting a State Municipal League will be formed. The two great objects of the league will be the dissemination of information relative to the government of cities and work for new and more uniform legislation.

**International Municipal Congress.**—Mayor Busse, of Chicago, sent to the Council a message outlining the purposes and scope of an International Municipal Congress and Exposition to be held in Chicago in September or October next year under the auspices of the Convention Bureau of Chicago, and the Council adopted a resolution authorizing the Mayor and City Clerk to join with the representatives of the Chicago Association of Commerce in extending to the principal cities of this and other countries and all bodies of civic nature to join in. All of the cities will be invited to make displays of the products, resources and some particular feature marking the progress and science of municipal government, engineering, paving, street railways, telephones, fire and police organizations, parks, playgrounds, police courts, in fact, all of the things incident to municipal government.

**Civil Engineers' Society of St. Paul.**—The society publishes a booklet containing the names and addresses of its members. The regular meetings of the society are held in the clubroom in the "Old State Capitol" on the second Monday of each month. J. D. Du Shane is president and D. F. Jurgensen, secretary.

**Illinois Mayors' Association.**—The program of the association for the convention, Cairo, May 18-19, is as follows:

May 18, 10 a. m.—Address of welcome, Mayor George Persons, Cairo; response, Mayor Joseph E. Paden, of Evanston, president. Appointment of committees and presentation of resolutions. Registration. 2 p. m.—President's address. 2:30 p. m.—Paper, "Finances and Accounting of Cities," the Hon. Edmund J. James, president University of Illinois. Discussion, led by Mayor E. N. Woodruff, of Peoria. 3:30—Paper, "Public Service Corporations and Their Control," Mayor W. T. Rawleigh, of Freeport. Informal address on same subject, Mayor Edmond Beall, of Alton. Discussion, led by Mayor Frank Storckman, of Mt. Carmel. 4:30—Informal address, "Enforcement of Ordinances," E. S. McDonald, ex-Mayor of Decatur. 8:00—Smoker.

May 19, 9:30 a. m.—Paper, "Public Health and Sanitation," Dr. W. A. Evans, Health Commission of Chicago. Discussion, led by Dr. F. M. Marschler, ex-Mayor of Geneva. 11:00—Paper, "The Construction, Repair and Maintenance of Pavements," Clark G. Anderson, City Engineer of Moline. Discussion, led by Mayor Fred J. Kern, of Belleville. 12:15 p. m.—Informal address, "Duties of Public Officials," Mayor Silas Cook, of East St. Louis. 2:00—Business meeting and election of officers. 4:00—River excursion as guests of the city of Cairo. 8:00—Banquet.

## Calendar of Meetings

## March 16.

**American Society of Civil Engineers.**—Regular meeting, Society House, New York.—Charles Warren Hunt, Secretary. 220 W. 57th st., New York, N. Y.

## April 26-30.

**American Water Works Association.**—Thirtieth annual convention, Gruenwald Hotel, New Orleans, La.—J. M. Diven, Secretary, Charleston, S. C.

## May 6-7.

**Appalachian Engineering Association.**—Annual meeting, Winston-Salem, N. C.—Harry M. Payne, Secretary, Morgentown, W. Va.

## June 22-24.

**Indiana Municipal League.**—Annual Convention, Richmond.—Baltz A. Bescher, Secretary, Richmond, Ind.

## August 23-26.

**International Association of Fire Engineers.**—Annual Convention, Syracuse, N. Y.—James McFall, Secretary, Roanoke, Va.

## October 11-16.

**American Society of Municipal Improvements.**—Seventeenth annual convention, Erie, Pa.—A. Prescott Folwell, Secretary, 239 W. 39th st., New York, N. Y.

## CITY ELECTIONS

Maine cities have elected the following Mayors:

Auburn .....\*Irving L. Merrill  
Bath.....\*John S. Hyde  
Eastport.....\*Walter J. Garnett  
Ellsworth.....†Dr. A. S. Hagerthy  
Gardiner.....\*Charles H. Gray  
Hallowell.....Frank S. Wingate  
Lewiston.....\*Frank A. Morey  
Rockland.....\*Albert C. McLoon  
South Portland.....John A. S. Dyer  
Saco.....\*E. H. Mitchell  
Waterville.....Norman K. Fuller  
\*Re-elected. †Former Mayor.

West Virginia cities have elected the following officials:

Belington—Mayor, E. A. Bach, over G. M. Right; Recorder, G. E. Cain; Councilmen, J. A. Viquesney, J. E. Keyser, Chas. Brandenburg and Henry Phillips.

McMechen—Mayor, Charles Morris, over H. M. McElroy; Treasurer, J. T. Powell; Chief of Police, Robert Hannon, Recorder, Calvin Fankhauser.

Elkins—Mayor, J. N. Kichenderfer; Councilmen, T. R. Whiteman, J. W. Reitz, Millard Decker, Ed. F. Everett and H. D. Daniels.

## PERSONALS

MAYOR ARMSTRONG, of Port Deposit, Md., has been re-elected for a fourth term, being favorable to the keeping of swine within the corporate limits of the town. The "anti-hog" Commissioners, however, won out by substantial majorities.

BIEBER, SIDNEY, of Washington, D. C., Fire Marshal of the District of Columbia prior to the Baltimore fire, when he became broken in health and was compelled to go to Arizona, where he recovered, has been named as Collector of the Port of Georgetown, D. C., by President Taft, succeeding Collector Nyman, who held the office nine years. Mr. Bieber is Republican National Committeeman of the District of Columbia.

BROWN, JAMES, Fire Chief of Owosso, Mich., tendered his resignation because Council insisted that he sleep in the fire hall with the other firemen at night; he had been on the fire-fighting force eighteen years.

BURK, WILL, and Frank Smith, captains of the Police Department of Chattanooga, Tenn., have been presented with gold badges by Chief McMahon, on behalf of the members of the force.

CHIDSEY, ANDREW DWIGHT, JR., Easton, Pa., has opened an office, No. 309 Northampton National Bank Building, as designing and constructing engineer.

COUGHLIN, JOHN, Alderman of Chicago, Ill., known as "Bathhouse John," has been nominated for a tenth term, after eighteen years' service.

DUNN, C. W., Chief of Police of Scotland Neck, N. C.; State Senator E. L. Travis, and Representative Kitchin, brother of Governor Kitchin, were shot by E. E. Powell, a local merchant, and Chief Dunn died two days later. Mr. Travis and Mr. Kitchin are recovering.

EBBERT, GEORGE, Marshal of Edgwood, W. Va., has been re-elected.

EVANS, T. B., Marshal of Deer Park, Wash., has resigned, and M. B. Farris has been appointed to the position.

FARMER, ALEXANDER S., and William E. Brown have been appointed assistant engineers, designers, under the Board of Water Supply, New York.

FAY, WILLIAM H., member of the Park Board of Newburgh, N. Y., has been re-appointed for a four-year term by Mayor McClung, and Charles H. Halstead has been named to succeed Charles H. Halstead, President of the Board. William C. Belknap and Henry M. Leonard are the other members.

FINLEY, CHARLES A., superintendent of the Bureau of Engineering and Surveys, Pittsburgh, Pa., for the last seven years, has been appointed successor to A. B. Shepherd, who recently resigned as superintendent of the Water Bureau. Mr. Finley has been connected with the Department of Public Works for 15 years and for three years was assistant engineer in the Water Bureau.

HARRISON, GEORGE, Deer Park, Wash., has been elected Mayor pro tem., succeeding Mayor W. D. Phillips, resigned.

HENNESSEY, WILLIAM P., principal assistant engineer, Borough of the Bronx, New York, has resigned.

HILL, ZORO, Police Commissioner of Alexandria, Va., passed away recently, and the pallbearers included Mayor Fred J. Paff and other prominent citizens.

HOGAN, GEORGE, and Mose F. Fite, Jacksonville, Texas, have been elected Aldermen.

HUDDLESTON, TOM., City Marshal of Arkansas City, Ark., was waylaid and shot with a double-barreled shotgun while making his rounds, and several negroes have been arrested pending inquiry.

LUCEY, JOSEPH, assistant City Engineer of Middletown, Conn., has been promoted to City Engineer, vice Ralph M. Wilcox, who resigned and made a recommendation for the promotion.

SEIDEL, HENRY, member of the Police and Fire Commission of Fond du Lac, Wis., for several years, has tendered his resignation to Mayor Clark, as he contemplates making his future home in Sheboygan.

SHUPP, JOHN, JR., Steelton, Pa., has been elected Chief of the Fire Department.

SNOW, WALTER B., Publicity Engineer, 170 Summer Street, Boston, Mass., has enlarged his offices by removing to rooms 421-425 in the same building. Benjamin Baher, formerly of the "Boston Transcript" and "The Navy," and Herbert M. Wilcox, chemical engineer, have recently joined his staff.

TUERKE, CARL W., City Commissioner of Spokane, Wash., has for the second time been removed from office by the City Council, by a vote of 8 to 1, and Mayor Pratt will not again reappoint him.

WARD, IRVING, Chief of Police of Seattle, Wash., has resigned, after a service of sixteen years in the Department, and will become manager of the Hotel Cecil, in which he is financially interested.

WHEELER, FINSON R., Superintendent of Streets of Gloucester, Mass., from 1898 to 1908, when he was defeated by George A. Ricker, died last week of pneumonia, aged 52 years.

## RECENT ELECTIONS OR APPOINTMENTS

Barre, Vt.—Mayor, James Mutch, over Homer C. Ladd, his brother-in-law; President Board of Aldermen, L. H. Thurston, re-elected; Vice-President, Alderman Hoyt; City Clerk, James Mackay.

Rutland, Vt.—President of Board of Aldermen, G. E. Lassar, re-elected; Commissioner of Public Safety, F. R. Patch; Commissioner of Public Works, D. W. Temple; Chief of Police, T. C. Ellsworth.

Middletown, Del.—Commissioners, Walter Vansant, to succeed G. V. Peverley, and Joseph Hanson, re-elected; Treasurer, Frank N. Davis; Assessor, S. S. Holten, re-elected; Alderman, A. G. Cox, re-elected.

Holyoke, Mass.—Playground Commission, Archibald A. Brooks, Mary E. Hussey, Richard H. Dietz, Frank B. Towne, Minnie R. Dwight, Edward T. McHugh, William J. Howes, Francis N. Allen, Louis A. La France; Inspector of Buildings Frank O'Connell is ex-officio executive officer of the commission. Committee to Investigate and Advance the Movement for Making School Houses Social Centers is named by the Mayor as follows: Mabel A. Metcalf, Mary Reardon, John P. Blasius, George E. Burgess, Israel Ducharme, Terence O'Donnell, John L. Riley and Edward N. White.

## TOWN ELECTIONS

## Maine

Essex—Highways Surveyors, Arthur M. Norton, Caleb M. Cogswell, Richard H. Lee, William M. Gaffney, William A. Lindall, Elin Perkins and Frank E. Watson; Treasurer, Benjamin F. Raymond.

Manchester—Water Commissioners, Senter Stanley and George E. Hildreth; Town Clerk, Alfred S. Jewett.

Rockport—Water Commissioner, Howard Hodgkins; Surveyor of Highways, John A. F. Graham; Town Clerk, Foster H. Saville.

## Massachusetts

Andover—Board of Public Works, John W. Bell, Lewis T. Hardy; Highway Surveyor, Milo H. Gould; Town Clerk, Abraham Marland.

Framingham—Town Treasurer, Bernard F. Merriam, over Thos. F. Hastings and Joseph L. Mundy, to succeed John B. Lombard, accused of forging town notes for \$1,185,000.

Methuen—Water Commissioner James H. Lyons, re-elected; Highway Surveyor, Robert W. Dow; Town Clerk, Joseph S. Howe.

North Andover—Street Commissioner, Willard H. Poor; Water Commissioner, William H. Somerville; Town Clerk, Joseph A. Duncan.

Revere—Water Commissioner, Alfred S. Hall; Sewer Commissioner, Gerard T. Segee; Town Clerk, Albert J. Brown.

## TRADE NOTES

**Cast Iron Pipe.**—Chicago: Routine orders are very satisfactory. Quotations: 4-inch, \$28.50; 6 to 12-inch, \$27.50; 16-inch and up, \$26.50. Birmingham: Local foundries are running full time. Quotations: 4 to 6-inch, \$25; 8 to 12-inch, \$24; over 12-inch, average, \$23. New York: A better feeling prevails among the pipe foundries. Quotations: 6-inch, \$25.50 to \$26.

**Lead.**—A slight improvement in the market for both spot and futures is noted on letter inquiries. New York, 4.575c to 4.65c; St. Louis, 4.40c to 4.45c.

**Squeegee Cleaner.**—The Kindling Machinery Company, Milwaukee, Wis., is exhibiting one of its rubber squeegee cleaners in Hartford, Conn. It is expected that one or more will be purchased for use on the smooth pavements.

**Novel Boiler Construction.**—The Metropolitan Water and Sewerage Board of Boston, Mass., is about to install two 300-horsepower vertical boilers, designed by F. W. Dean, engineer, Boston, Mass., at the high-power station, Chestnut Hill. These boilers are to operate at 165 pounds, and the distinctive feature is the unusual form of butt joint used on the longitudinal seams.

**Valves and Hydrants.**—The Holyoke Valve and Hydrant Company, Holyoke, Mass., is considering a reduction of its capital from \$100,000 to \$50,000. This is stated by President F. H. Metcalf as merely a change in methods of accounting. The business is increasing and the plant will be maintained in good physical condition. The Holyoke Valve and Hydrant Company was incorporated in 1903 and has as officers: F. H. Metcalf, president; G. S. Lewis, vice-president; F. A. Smith, treasurer and general manager. The plant is located on Race street.

**Motor-Driven Air Compressors.**—The National Brake and Electric Company, Milwaukee, Wis., in its publication No. 387, describes its "3VS" type of air compressors. The compressors are rugged in construction, so as to eliminate as far as possible all chances of injury to any of the parts. They are motor-driven, direct connected, of the single stage type, with three vertical cylinders, and are automatically electrically controlled throughout so that little attention need be given them after they are properly installed. The National compressors are designed for continuous service against a load of from 60 pounds to 100 pounds per square inch. The driving power is transmitted from the motors to the compressors by means of a herring-bone pinion and gear. Portable outfits are made mounted on steel trucks so that they can be hauled from place to place on highways.

**Chloride of Calcium.**—The Solvay Company, Syracuse, N. Y., has placed a dust-laying preparation on the market known as "Solvay Granulated Chloride of Calcium." The Solvay Company claims that the material is cheaper and more satisfactory than oil preparations. It is claimed that it costs less per yard than oil and requires no top dressing of gravel to absorb it, as does oil. It is further claimed that the preparation does not produce a greasy mud nor does the mud injure the paint of vehicles, and it is without injurious effect on rubber. The cost is said to be \$25 per mile for each application and two or three per year are sufficient.



**New Police and Fire Alarm System.**

—A new police, fire, night watch and telephone system has been invented and patented by Louis W. Miller, Rochester, N. Y., and is being exhibited at the offices of the Standard Sewer Pipe Company, in Caledonia avenue, Rochester. Commissioner of Public Safety Charles S. Owens and Chief Quigley of the Police Department have examined the system, and consider it a great improvement over that which the city now has. The system comprises a switchboard, comparatively small, connected by telephone with every patrol box in the field, so equipped that when the commander of a precinct wishes to talk with an officer on his beat he can summon him by gong or by colored light or both, simply by the pressure of a button. The response by the officer is automatically registered whether he talks or not by a time clock attachment. This record and all records of reports by officers are on constant view for twelve consecutive hours, and are instantly available by the commanding officer. There are no dots and dashes on a long tape to be unwound before a record can be found and translated, as by the present system. Any break in a line of the new system can affect but a single patrol box, and is instantly recorded at headquarters.

**Snow Packer.**—Great success in keeping roads open after the recent snowstorms has resulted from the use of the Adirondack Snow Packer and Track Cleaner, manufactured by Alexander, Murcil & Co., Brighton, N. Y. Three of the machines were used in Hamelstown and three in Brighton and the roads have been kept open at all times.

**Contractors' Machinery Tools and Supplies.**—Harold L. Bond Company, 383-391 Atlantic avenue, Boston, Mass., and 27 Coenties Slip, New York, N. Y., publishes an illustrated catalogue of 288 pages, giving descriptions and prices of tools and machinery for all branches of construction work. It is always desirable to consult the catalogue before ordering supplies, for, no matter how familiar the contractor may be with the tool or machine he orders, his description, made without looking at the catalogue, may lack something in specifying quality, size or other detail.

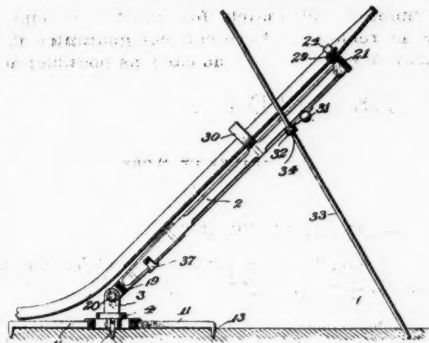
**Sprayers.**—The Binks Spraying Machine Company, 1911 Fulton street, Chicago, Ill., publishes a booklet describing the different kinds of spraying devices which have been put on the market by the company. Model No. 5 weighs 650 pounds, and is claimed to be the lightest water-cooled spraying outfit engine built. The manufacturers claim that the engine will operate the pump under 200 pounds pressure day in and day out without fail.

**Buckets.**—The Ohio Ceramic Engineering Co., Cleveland, O., manufacture the Eclipse bottom dump bucket which will handle concrete, mud, dirt, gravel, stone, etc., and is designed to deposit the load directly under the bucket without spreading the material about. The mechanism for opening and closing the doors is simple and strong and the locking device is sure. The design gives the bucket great strength with comparative lightness. The Ideal concrete form bucket made by the same concern is designed for placing concrete in forms for walls, and also makes an ideal spreader for concrete for floors and roof slabs. The circular doors operated by a hand wheel open to any width up to 12 inches, and are held in position by the weight and friction of the lead.

**PATENT CLAIMS**

949,327. **NOZZLE-SUPPORT FOR FIRE HOSE.** John J. Meskill Philadelphia, Pa., assignor to James F. Kelly, Washington, D. C. Serial No. 436,975.

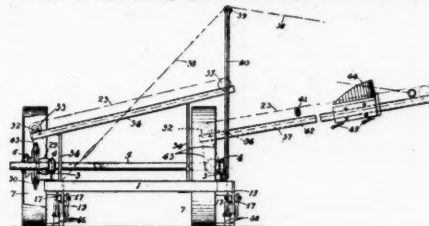
The combination in a nozzle-holder, of a base, consisting of a central plate, and arms pivoted to and radiating from the same, said arms being capable of being folded and



extended radially in substantially the same plane as the base, and means secured upon the base to engage the arms and lock them in their extended positions.

950,367. **MACHINE FOR EXCAVATING, RAISING AND DUMPING EARTH, ETC.** Wesley Castles, Stanmore, near Sydney, New South Wales, Australia. Serial No. 523,674.

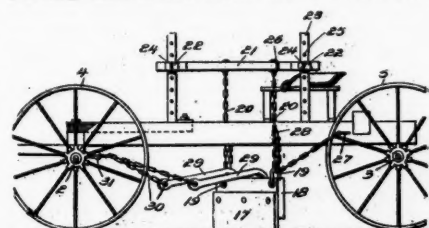
In a machine of the class described a framing supported on a shaft or axle mounted on one or more combined elevating and transport wheels having inwardly opening buckets or chambers arranged radially on the periphery thereof, double-ended excavating plows designed to deliver



earth to said chambers, curved plates secured to the framing and designed to cover chambers on each side of said wheels and knives located below said plates for removing the superfluous earth projecting above the said chambers.

950,457. **ROAD-WORKING MACHINE.** John M. Parcel, Sr., Mendota, Mo. Serial No. 509,343.

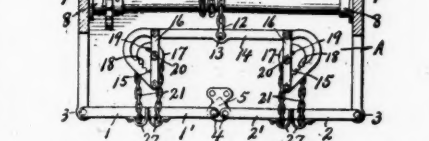
A road-working machine comprising a frame, hangers adjustably mounted on the frame, a scraper blade extending diagonally beneath the frame, means flexibly supporting said blade from the forward por-



tion of the frame, suspending devices on the frame in rear of the blade, and suspension chains connected at one end with the hangers and extending through said suspending devices, said chains having a sliding engagement with the scraper blade and being adjustable as to length.

948,358. **DUMP-WAGON.** Walter A. Underhill, Auburn, N. Y. Serial No. 433,317.

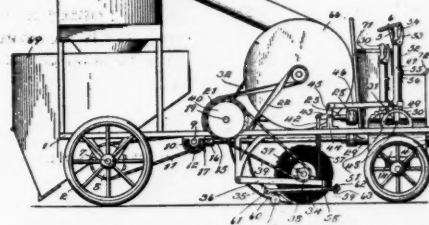
In combination with the swinging doors of a dump wagon and operating means



therefor comprising an inclined rack, a roller riding on the rack and cables engaged with the roller and operatively connected to the doors.

949,069. **STREET-SWEEPER.** Oscar Grimwood, Owensville, Ind. Serial No. 485,349.

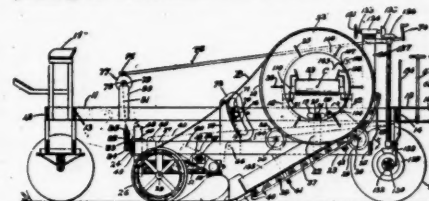
In a street sweeper, a framework, a pneumatic suction fan carried thereby, a rotary brush, pivotally mounted arms for supporting the brush, said pneumatic suction fan having a pneumatic suction pipe with its



end disposed beneath and slightly in the rear of the said brush, connections between the suction pipe and the pivotally mounted arms in order to allow the suction pipe to have a yielding action, and means for raising and lowering the said pivotally mounted frame.

948,816. **GRADING AND DITCHING MACHINE.** Walter Hay, Seville, O., assignor to Thomas F. Stroud, Omaha, Neb. Serial No. 466,162.

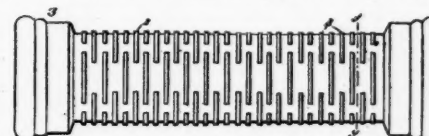
A machine of the class described comprising in combination with an endless con-



veyor-belt, a plow or implement adapted to penetrate and loosen the soil and to deliver same upon the lower leaf of said conveyor-belt.

950,578. **CAST-IRON PIPE.** Charles R. Schmidt, Baltimore, Md. Serial No. 466,670.

A cast iron, one-piece pipe having a re-



ceiving member at each end and formed with integral circumferential ribs between the receiving members.

**INCORPORATIONS**

**J. S. Allen Dredge Company,** Manhattan, N. Y.; dredging, build docks, piers, canals, general contracting; capital, \$5,000. Incorporators: Judge S. Allen, 115 Broadway; W. Steward Gray; Henry D. Barmore, 149 Broadway, all of New York City.

**Daly-McAvoy-Grippio Company,** New York, N. Y.; general contracting and construction business, capital, \$14,000. Incorporators: Daniel J. Daly, 646 Lenox Ave.; Joseph Grippio, 439 Boulevard; James McAvoy, Jr., 303 East 127th st., all of New York.

**The Jewettville Brick Co.,** Buffalo, N. Y.; manufacture brick, stone, building and paving materials; capital, \$50,000. Incorporators: Walter J. Minehan, Herbert W. Huntington, John A. Lynch, all of Buffalo, N. Y., and others.

**John Johnson Construction Co.,** Buffalo, N. Y.; general contracting and construction company; capital, \$50,000. Incorporators: Alexander McNiven, 1224 Niagara Street, Buffalo, N. Y.; John E. Johnson, 741 Abbott Road, Buffalo, N. Y., and Chas. A. Hahl, 176 Woodward avenue, Buffalo, N. Y.

**Ocean Utilities Co.,** 1 Montgomery st., Jersey City, N. J.; general contractors, builders and engineers; capital, \$100,000. Incorporators: Frederick W. Keasbey, Robert K. Walton, both of 34 Nassau st., New York City; Geo. W. Flaacke, 1 Montgomery st., Jersey City.

**Sayville Gas Co.,** manufacture and supply gas for lighting, etc.; capital, \$5,000. Incorporators: Geo. T. Peck, Newark, N. J.; John A. Graham, Newark, N. J.; Ernest G. Jones, Glen Cove, N. Y.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage  
Water Supply and Public Lighting—Fire Equipment and Supplies—Bridges and Street Railways—Sanitation,  
Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

## BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>STREET IMPROVEMENTS</b>				
New York	Matteawan	Mar. 18, 2 p.m.	Vit. block paving, 16,500 sq. yds. on Main and Fountain sts.	B. I. D. Roosa, Village Clerk.
Missouri	Independence	Mar. 18	Grading, draining, etc., 3 roads, 4, 2 1-2 and 2 1-2 miles long.	S. A. Boyer, County Clerk.
Ohio	Toledo	Mar. 18	Regrading 6,270 sq. yds. Erie st. on present stone block.	G. W. Tonson, Ch. Engr. Bd. P. S.
Ohio	Cincinnati	Mar. 18, noon	Improving Madison road, Cooper to Cornell ave., Sycamore twp.	Stanley Struble, Pres. Co. Comrs.
Iowa	Iowa City	Mar. 18, 2 p.m.	Paving 5,500 sq. yds.; curb, 660 lin. ft.; excav. 2,300 cu. yds.	O. J. Slater, City Clerk.
Minnesota	Faribault	Mar. 19	Paving 25,700 sq. yds., 3 sts., any hard material, 1 mile curb.	D. F. McKenzie, City Clerk.
Oklahoma	Ardmore	Mar. 19, noon	Constructing sidewalks on number of streets.	W. R. Burnitt, Comr. Sts. and Alleys.
Alabama	Bay Minette	Mar. 19	Grading and bldg. 4 roads, 33 miles long; grading 16 ft. wide with 14-in. crown in center to side ditch, stump holes and depressions to be filled and surfaced with heavy split-log drag or roller.	John H. Taylor, Box 116. Chm. Schnabel, Town Com.
New Jersey	Union	Mar. 21, 8 p.m.	Furnishing stones to repair township roads.	J. C. Carothers, City Clerk.
Missouri	Kirksville	Mar. 21	Brick paving, 15,000 sq. yds. on 5-in. concrete; 12,000 ft. conc. curb and gutter.	John J. Wenner, Clk. Bd. Pub. Serv. City Council.
Ohio	Cincinnati	Mar. 21	Wood block or bitulithic, 1 st.; brick, etc., with retaining walls, 1 street.	Paul Matthews, City Clerk.
Iowa	Harlan	Mar. 21	Paving around Square, also Main st. to Great Western depot.	J. T. Bullen, County Engineer.
Michigan	Mt. Clemens	Mar. 21	Paving portions of S. Front and Market streets.	Board of Local Improvements.
Alabama	Montgomery	Mar. 21, noon	Regrading 12 miles; grading and graveling 2 miles of road.	P. H. Weber, City Engineer.
Illinois	Lincoln	Mar. 21	Paving Kickapoo, McLean, Clinton and other streets.	H. M. Miles, City Engineer.
Ohio	Canton	Mar. 22	Curbing, 12,300 lin. ft.; flagstone walks, 61,420 sq. ft.	W. F. Rayle, Boro. Sec'y.
Indiana	Michigan City	Mar. 22, 10 a.m.	Brick paving, 4,375 sq. yds., Hermitage avenue.	R. T. Proctor, County Engineer.
Pennsylvania	Beaver Falls	Mar. 22, 8 p.m.	Constructing sidewalks and curbing; per Ordinance 316.	John J. Wenner, Clk. Bd. Pub. Serv.
Missouri	Independence	Mar. 22	Grading and draining, 3 roads; costs, \$7,150, \$7,150 and \$6,945.	Wm. H. Mason, Chm. Bd. Com.
Ohio	Toledo	Mar. 22	Grading, curbing, wood block paving, Eden and Bethesda aves.	H. L. Bowlby, Chm. State Hwy. Com.
New Jersey	Paterson	Mar. 23, 2 p.m.	Grade and lay G. F. B. Comp. pavement, drain, etc., Main st.	John M. Tucker, Chm. St. Rd. Com.
Washington	Olympia	Mar. 23, 2 p.m.	Improving 4 State aid roads.	J. W. Hunter, State Hwy. Com. County Clerk.
Washington	Baltimore	Mar. 24, noon	Bldg. State roads aggregating 50.56 miles, various Counties.	T. H. Dann, Sec'y Boro. Council.
Pennsylvania	Harrisburg	Mar. 24, 2 p.m.	Bldg. 10,557 lin. ft. road, 14 and 16 ft. wide in Conneaut twp., Erie Co.	Fred Dreihls, County Clerk.
Virginia	Staunton	Mar. 24	Constructing 3 1-2 miles macadam road at Craysville.	City Auditor.
Pennsylvania	Yeadon	Mar. 24	Laying sidewalks, curb and gutters in Borough.	Frank R. Lander, County Surveyor.
Ohio	Cincinnati	Mar. 25, noon	Improving Second ave., 1,250 ft. in Green twp.; Spec. No. 11.	John Scott, Clk. County Comrs.
South Dakota	Sioux Falls	Mar. 29	Paving Sixth st. and constructing State road No. 18.	Wm. W. Willson, City Clerk.
Ohio	Cleveland	Mar. 30, 11 a.m.	Grading, draining, etc., Depot road, in Strongsville twp.	J. A. Ridgway, Sec'y Park Bd.
Ohio	Columbus	Mar. 30	Grading and macadamizing 3,705 lin. ft. Lazell road on County line; 1,800 cu. yds. excav., 1,850 tons crushed limestone, 420 tons screenings, 10,000 gals. asphaltic oil, c. i. pipe, etc.	Harry F. Conrad, Boro. Sec'y.
North Carolina	Raleigh	Mar. 30	Paving 25,000 sq. yds. with brick, cement filler, bitulithic and asphalt macadam on Fayette and other streets.	Fred Dreihls, Clk. Co. Comrs.
Minnesota	Minneapolis	Mar. 31	Bldg. drive through Glenwood Park, Superior to 6th ave., N.	John B. Wyss, Chm. Bd. Co. Comrs.
Pennsylvania	Gallitzin	April 1, 8 p.m.	Furn. 450,000 paving block; brick paving, 9,000 sq. yds.	H. W. Bethard, Sec'y Police Jury.
Ohio	Cincinnati	April 1, noon	Improving 4 roads. Spec. Nos. 968, 1,000, 992 and 982.	Constructing O. M.
Indiana	Fort Wayne	April 2, 10 a.m.	Grading, graveling or macadamizing County highways.	Capt. A. M. Miller, 263 Summer St. Boston.
Louisiana	Harrisburg	April 4	Working 25 miles of road; parish furnish road machines, etc.	E. G. Krahmer, County Auditor.
Delaware	Ft. Du Pont	April 4, 11 a.m.	Macadam road, 1,934 sq. yds.; granolithic walk, 3,777 sq. ft.	
Massachusetts	Ft. Strong	April 4	Constructing roads, walks and drains at Fort.	
Minnesota	St. Paul	April 12, 10 a.m.	Grading and macadamizing Centerville road; cost, \$20,000; Lexington ave., \$11,000; Bald Eagle Lake ave., \$5,000.	
<b>SEWERAGE</b>				
Illinois	Joliet	Mar. 21, 10 a.m.	Bldg. sewer in Broadway, Ordinance No. 2,428.	Wm. S. Welch, Clk. Bd. Loc. Imp.
Ohio	Cincinnati	Mar. 21, noon	Bldg. sewers in Pulte, Rosehill and Beechwood avenues.	John J. Wenner, Clk. Bd. Pub. Serv.
Ohio	Toledo	Mar. 21, noon	Constructing local sewers Nos. 1,092 and 1,094.	Fred Shane, Sec'y Bd. Pub. Serv.
Kansas	Winfield	Mar. 21	Bldg. sewer dist. No. 10, between 3d and 6th aves., east of Andrews.	J. N. Bradley, City Engineer.
New York	Brooklyn	Mar. 23, 11 a.m.	Reconstruction of sewers in several streets.	Alfred E. Steers, Boro. President.
Virginia	Williamsburg	Mar. 23, noon	Franchise for sewerage and water, electric light and power systems for city.	John L. Mercer, Chm. Wtr. Com.
Ohio	Lima	Mar. 24, noon	Bldg. 10-in. vit. pipe sewer, catch basin and out fall, Tuberculosis Hospital.	S. S. Holland, Sec'y Holland Bldg.
New Jersey	South Amboy	Mar. 29, 7:30 p.m.	Constructing sanitary sewer system: 1,000 ft. 24-in., 1,300 ft. 20-in., 3,070 ft. 15-in., 4,444 ft. 10-in., 10,500 ft. 8-in. clay pipe sewer and 2,000 ft. 24-in. c. i. pipe, 1,000 cu. rods. concrete in place, brick manholes, complete, etc.	Joseph F. Fulton, City Clerk.
Ontario	Brantford	Mar. 31	Furn. and lay 2,180 ft. 12-in. extra strength pipe and 705 ft. 12-in. c. i. pipe, manholes, etc.	T. Harry Jones, City Engineer.
Tennessee	Cleveland	April 1	Bldg. \$35,000 sewer system and disposal plant for city.	Sol. Norcross Co., Atlanta, Ga., Engr.
New York	Syracuse	April 1	Harbor Brook improvement, 3 miles long, including constructing of intercepting sewer.	Intercepting Sewer Board.
North Dakota	Ashley	April 4, 2 p.m.	Furnishing 12 metal culverts of various sizes.	John F. George, County Auditor.
Illinois	Canton	April 14, 7 p.m.	Material and labor for bldg. system of storm water sewers, changes and additions to sanitary sewers and sewage purification tanks; \$30,000 bond. A. T. Maltby, C.E., Chicago.	Joseph Waugh, City Clerk.
Virginia	Big Stone Gap	April 15	Paving and sewer work to cost \$22,000.	City Recorder.
Oklahoma	Enid	April 21, noon	Bldg. lateral sewer in 5 blocks, in Garland addition.	E. R. Lee, City Clerk.
Kansas	Manhattan	May 3, 3 p.m.	Bldg. complete sanitary sewer system; cost, \$80,000.	Con M. Buck, City Engineer.
<b>WATER SUPPLY</b>				
Kansas	Russell	Mar. 18	Building dam for proposed water works.	Chas. E. Hall, Chm. Wtr. & Lt. Com.
Montana	Great Falls	Mar. 21	Furn. and install two 2,000,000-gal. electric-driven centr. pumps.	W. P. Wren, City Clerk.
Illinois	Joliet	Mar. 21, 10 a.m.	Constructing water main in Meda ave., Ordinance 2416.	Wm. S. Welch, Clk. Bd. Loc. Imp.
California	Santa Ana	Mar. 21, 5 p.m.	Furnishing 36 tons 4-in. c. i. pipe, cars Santa Ana.	Edward Tedford, City Clerk.
Indiana	Hammond	Mar. 21, 10 a.m.	Furn. and lay 3-4-in. lead water service pipe connection.	Board of Public Works.
Kansas	Columbus	Mar. 21, noon	Furn. all materials for w. w.; 3,200 ft. 6-in., 7,400 ft. 4-in., two 6-in. and four 4-in. valves, etc.; 16 hydrants, specials, etc.	F. H. Hawkins, City Clerk.
South Dakota	Faulton	Mar. 21	Furn. material and bldg. 60,000-gal. steel tank on steel tower.	J. T. Mitchell, City Auditor.
Saskatchewan	Saskatoon	Mar. 21, 9:30 p.m.	Furnishing material and erecting steel standpipe.	J. H. Truesdale, City Clerk.



## BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>WATER SUPPLY—Continued</b>				
Pennsylvania	Reading	Mar. 22	C. I. pipe and specials, gate boxes, laying supply pipe from Penn St. reservoirs to 8th and Penn sts.; scrap iron removal, and bldg. high-pressure pumping station.	L. S. Ramsey, Sec'y Water Board.
Oklahoma	Henryetta	Mar. 22, 8 p.m.	Furn. and install steel standpipe 22 x 50 ft.; two 500-gal. power pumps, triplex or turbines; 2 gas engines; clearing reservoir site and bldg. earth dam 35 ft. high with concrete core wall and spillway.	W. E. Harlan, Resident Engineer. J. A. Foster, Pres. Bd. Pub. Wks.
New York	Fulton	Mar. 23, 8 p.m.	Furnishing 1,900 5-8-in. and 100 3-4-in. water meters.	John L. Mercer, Chm. Wtr. Com. State Commission in Lunacy, Albany
Virginia	Williamsburg	Mar. 23, noon	Franchise for water works, lighting and power and sewerage systems for city.	Henry N. Knott, City Clerk.
New York	Utica	Mar. 23, 3 p.m.	Water piping for fire protection at Utica State Hospital.	J. D. Kerr, Sec'y Wtr. & Lt. Comrs.
Minnesota	Minneapolis	Mar. 25	Furnishing 2,000 5-8-in. corporation cocks, complete.	Col. J. G. Warren, U. S. Engrs.
Pennsylvania	Lebanon	Mar. 25, 8 p.m.	29,100 ft. 20-in. gravity main and 3,700 ft. 16-in. 13,900 ft. 32-in., 3,900 ft. 10-in. main, in sts. T. R. Crowell, City Eng'r.	Pearl Springs Water Co.
Ohio	Cincinnati	Mar. 28, noon	Furn. and install water system at dam 37, Ohio river.	
Colorado	Rocky Ford	April 1	Constructing water works to cost \$500,000. R. A. Sawyer, C.E.	
Texas	Miles	April 1	Furnishing 11,500 ft. 4-in., 3,000 ft. 6-in. c. i. pipe; 35 fire hydrants; 11 valves; 350-gal. triplex pump; air compressor, power driven; 50 h.p. gasoline engine.	O'Neil Eng. Co., Dallas. M. Peterson, Sec'y Bd. Control.
Manitoba	Winnipeg	April 4	Furnishing c. i. water pipe, valves and hydrants for city.	Lew F. Porter, Sec'y Capitol Com'n.
Wisconsin	Madison	April 5	Furn. and install 200 tons 4 to 10-in. c. i. water pipe, 70 hydrants, etc., for light, heat and power plant in Capitol Park.	C. T. Goodier, Constr. Q. M.
New Jersey	Ft. Hancock	April 6, noon	Bldg. pumping plant and installing machinery at Fort.	J. N. Johnston, Engineer.
South Carolina	Florence	April 15	Bldg. 7 miles of water main; deep well pump (air lift system), c. i. pipe, hydrants and valves for city.	
<b>BRIDGES</b>				
Ohio	Cleveland	Mar. 19, 10 a.m.	Concrete bridge and paving, Richmond road, Euclid twp., Spec. No. 2572; concrete abutments, Chagrin river, Mayfield twp., No. 2373.	John F. Goldenbogen, Clk. Co. Comrs. C. W. Comstock, State Engr., Denver
Colorado	Georgetown	Mar. 19	Bldg. concrete steel hwy. bridge over south fork of Clear creek.	
Minnesota	Minneapolis	Mar. 21	Bldg. concrete-steel bridge, 32 ft. long, 20-ft. roadway, Maple Grove.	Frank E. Haycock, Co. Surveyor.
New York	Hudson	Mar. 22, 1 p.m.	Bldg. 2 joint bridges; Hudson and Blue Stone bridges.	L. J. Bashford, Co. Supt. Hwys.
Louisiana	Shreveport	Mar. 22, 5 p.m.	Bldg. \$300,000 steel traffic bridge over Red river.	Geo. R. Wilson, City Engineer.
North Dakota	Grand Forks	Mar. 22, 10 a.m.	Bldg. all steel bridges in 1910; by lin. ft. for truss and plain.	Hans Anderson, County Auditor.
Pennsylvania	Reading	Mar. 24	Repairs to wing wall of Bushong's bridge.	A. L. Rhoads, County Controller.
Ohio	Cincinnati	Mar. 25	Constructing a culvert on Gurley road, Green twp.	F. Dreihls, Clk. Co. Comrs.
Indiana	Portland	Mar. 28	Bldg. 160-ft. steel bridge; also 100-ft. concrete arch.	Comrs. of Jay and Blackford Cos.
Indiana	Hartford City	Mar. 28, 2 p.m.	Erection and construction of various bridges for County.	L. W. Dougherty, County Auditor.
Oklahoma	Muskogee	Mar. 29, 10 a.m.	Bldg. 3 steel bridges: 160, 120 and 90 ft.; also 36-ft. conc. arch.	J. J. Brotherton, Chm. Co. Comrs.
Pennsylvania	Kempton	Mar. 29, 10 a.m.	Erection of reinforced concrete arch bridge.	A. L. Rhoads, Co. Contr., Reading.
Minnesota	Minneapolis	Mar. 31, 5 p.m.	Bldg. bridges Nos. 1, 3 and 4; on comb. rein. concrete and granite-faced bridge; Nos. 3 and 4 also all concrete.	J. A. Ridgway, Sec'y Park Comrs.
Alabama	Talladega	April 4	Bldg. 2 steel bridges, one over creek, other over So. R. R.	J. E. Camp, Judge of Probate.
Louisiana	Harrisonburg	April 4, noon	Repair of Bayou Louis bridge.	H. W. Bethard, Sec'y Police Jury.
Illinois	Streator	April 4, 5 p.m.	Bldg. \$30,000 bridge over river; grade and pave approaches.	John B. Patterson, City Clerk.
Indiana	La Porte	April 4	Bldg. bridge over Kankakee river at English Lake.	H. C. Miller, County Auditor.
California	San Jose	April 5, 11 a.m.	Bldg. \$15,000 reinforced concrete bridge over Coyote creek.	J. G. McMillan, County Surveyor.
Washington	Kalama	April 5, 10 a.m.	Bldg. 300-ft. steel hwy. bridge at Castlerock, one span with wood flooring, 16-ft. roadway; concrete sub., 2 piers, 70 ft. high, 55 ft. being above water.	G. S. Roberts, County Engineer.
Utah	White Rocks	June 1	Bldg. substructure of \$18,000 steel bridge at Vintah and Ouray Indian agency. M. J. Patterson Contr. Co., Denver, Colo., has contract for superstructure.	Comr. Indian Affairs, Wash., D. C.
<b>LIGHTING AND POWER</b>				
Illinois	Galesburg	Mar. 21, noon	Corliss valve steam engine; also Tandem Compound Auto. engine; a. c. generator and exciter; comb. unit of steam turbine a. c. generator and exciter; switchboard.	B. J. Huff, Jr., City Clerk. C. H. Kibbie, Supt. Light Plant.
Ohio	Cleveland	Mar. 23	Lighting equipment for So. Bkln. municipal elec. light plant.	John L. Mercer, Chm. Water Com.
Virginia	Williamsburg	Mar. 23, noon	Franchise for lighting and power systems; also for sewerage and water works for city.	Board of County Supervisors. John Wilson, Asst. City Engr. Board of City Trustees.
California	Los Angeles	Mar. 28, 2 p.m.	Franchise to construct and operate for 30 years electric light pole and wire system on certain highways of County.	O. B. Olson, City Sec'y-Treas.
Ontario	Fort William	April 1	Gas franchise, inc. bldg. of plant, mains, etc., and operation.	
California	Hayward	April 6	Purchase of electric light and power franchise.	
Alberta	Camrose	April 15	For installation of elec. light and power plant on 10-yr. franchise.	
<b>MISCELLANEOUS</b>				
New York	Little Falls	Mar. 18	Sprinkling streets and doing city teaming.	Board of Public Works.
Virginia	Roanoke	Mar. 18	Bldg. two, also one-story addition to Revenue Com'r's office.	W. L. Craft, City Clerk.
California	Oakland	Mar. 19	Franchise for electric street railway in Berkeley.	Board of County Supervisors.
New York	Rochester	Mar. 19, 10:30 a.m.	Installing hardened steel aux. grating outside 11 windows at County jail, etc.	Thos. J. Bridges, Pub. Bldg. Com.
Missouri	Springfield	Mar. 21	Erecting \$250,000 Court House for County.	Board of County Commissioners.
Montana	Great Falls	Mar. 21, 8 p.m.	Furn. one double 50-gal. tank, 60 h.p. auto-propelled chemical fire engine, etc., f. o. b. Great Falls.	W. P. Wren, City Clerk.
Texas	Gainesville	Mar. 22	Complete maps of city and city cemetery.	John W. Puckett, Mayor.
Pennsylvania	Beaver Falls	Mar. 22, 8 p.m.	Collecting garbage for 1 or 2 years; borough furnish wagons.	W. F. Rayle, Sec'y Boro. Council.
Dist. of Col'bia	Washington	Mar. 23, 2 p.m.	Collection and disposal of ashes, garbage, dead animals, night soil, etc.; also ashes, etc., from city bldgs. for 1, 3 or 5 years.	Cuno H. Rudolph, Pres. Bd. Comrs.
Illinois	Chicago	Mar. 23	Bldg. 4,000 ft. of concrete or stone breakwater.	M. H. West, Sec'y Linc. Park Comrs.
Ohio	Cleveland	Mar. 23	Installing complete refrigerating machinery for drinking water system for County Court House.	J. J. Boyle, Sec'y Co. Bldg. Comr.
Kansas	Wichita	Mar. 23	Bldg. \$150,000 auditorium. Williams, McCarthy & Buford, Architects.	Wm. Sence, City Clerk.
Illinois	Ft. Sheridan	Mar. 30, noon	Constructing garbage crematory and building.	Capt. M. E. Saville, Const. Q. M.
Montana	Butte	Mar. 30, 2 p.m.	Bldg. \$500,000 Co. Court House; sep. bids for heating, plumbing, ventilating and elec. elevators. Link & Haire, Archts.	J. H. Cronin, Chm. Bd. Co. Comrs.
Minnesota	Faribault	Mar. 31	Bldg. fireproof jail and sheriff's residence; whole or separate.	Albert Schiffler, Aud., Mankato.
North Dakota	Ashley	April 4	Furnishing 12 metal culverts of various sizes.	John F. George, County Auditor.
Indiana	Evansville	April 8	Sprinkling 25 streets from April 11 to Nov. 11, 1910.	Board of Public Works.
Massachusetts	Boston	May 15	Furnishing watering carts, also watering and oiling sts. in 10 districts of city; also for cleaning sts. and sidewalks in 4 districts., to Dec. 1, 1910.	G. C. Emerson, Supt. of Streets.

## STREET IMPROVEMENTS

Birmingham, Ala.—Council has ordered paving and improvement of eight streets.—H. E. Shropshire, Jr., City Clerk.

Los Angeles, Cal.—Syndicate headed by L. B. Burek Co. and H. G. Colton & Co. will expend about \$50,000 in street improvements in tract bounded by Stephenson ave., 9th and Indiana sts.

Napa, Cal.—Council is considering bond-

ing \$20,000 or \$25,000 for bitumenizing streets.

Niles, Cal.—Niles Canyon road will be constructed in near future.—C. B. Overacker, Roadmaster.

Oakland, Cal.—Council will establish grades on streets in northern section of newly annexed district.

Piedmont, Cal.—Citizens have voted \$70,000 for grading, guttering and curbing five avenues and making other improvements.

Pomona, Cal.—Board of Trustees have ordered paving of Garey ave. and resurfacing of paved section of 2d st.

San Diego, Cal.—Council has decided to repave H st.; asphalt paving, between intersections, \$21,529; paving 51,185 ft. at intersections, \$10,237; culverts, \$1,600; engineering, \$330; total, \$33,696.

Florence, Col.—Cement walks will be laid on 2d st.

Hartford, Conn.—Plans for proposed state

road work have been received by State Highway Commissioner, as follows: From Engineer A. B. Alderson, 9,000 lin. ft. on the Hartford-Winsted turnpike in town of New Hartford; from Engineer S. H. MacKenzie, two sections, aggregating 11,300 lin. ft. in town of Prospect; from Engineer J. Frederick Jackson, three sections in town of Southbury, 16,000 lin. ft. on Southford-Southbury Center road, 11,400 lin. ft. on Southbury-Woodbury road and 19,315 lin. ft. on Newton road.

**Hartford, Conn.**—State Highway Commissioner MacDonald has allowed 107 towns \$10,000 each and 14 amounts from \$2,000 to \$8,000 each for road improvements during year.

**Wilmington, Del.**—Court of General Sessions will consider construction of public road in Brandywine Hundred.

**Arcadia, Fla.**—De Soto County Commissioners are considering \$500,000 bond issue for road construction.

**Pensacola, Fla.**—Paving of Tarragona st. with brick has been estimated at \$33,000 and Palafox st. at \$23,000.

**Atlanta, Ga.**—Street committee will recommend that \$19,500 be appropriated for paving Spring st. with wooden blocks and bitulithic.—R. M. Clayton, City Engineer.

**Columbus, Ga.**—Council has adopted ordinance providing for macadamizing Hamilton ave.—W. C. Campbell, City Engineer.

**Macon, Ga.**—Council has ordered curbing of street on Huguenin Heights.

**Coeur D'Alene, Ida.**—Citizens will vote on \$23,000 bonds for grading and improvements of streets.

**Aurora, Ill.**—City Engineer M. J. Tarbell will ask for bids after March 15 for asphalt paving on Benton and Walnut sts.

**Carmi, Ill.**—Carmi Township residents are urging construction of rock road.

**Decatur, Ill.**—Paving of W. Green and N. College sts. is being considered.

**Maywood, Ill.**—Citizens have voted bonds for repaving streets.

**Bloomington, Ind.**—Council is considering employment of assistant consulting engineer to get up profiles for all street and sidewalk grades.

**Evansville, Ind.**—Board of Works has decided to improve Main st.

**Fort Wayne, Ind.**—Bids have been rejected as too high for improving highways in Allen County.—G. W. Lindemuth, County Auditor.

**Indianapolis, Ind.**—City will expend about \$50,000 on repairs to streets.—Jos. L. Hogue, Street Commissioner.

**Mishawaka, Ind.**—City Engineer Haverley has drawn up plans and specifications for paving Mill st. with brick, asphalt, creosote block and bitulithic pavement.

**River Park, Ind.**—Town Trustees have decided to improve North Eighteenth st.

**South Bend, Ind.**—Navarre Place Association is urging extension of North Shore drive.—Ward L. Mack, President.

**Ft. Dodge, Ia.**—Council has passed resolutions for paving portions of 14 streets with 5-in. concrete base and 1-in. binder, and wearing surface; also curbing portions of 10 streets.

**Knoxville, Ia.**—The Council appointed a committee to investigate concrete paving.

**Atchison, Kan.**—Automobile Club, Nortonville, will undertake task of bettering roads leading to that town.

**Fort Scott, Kan.**—Council has passed ordinance for issuance of \$1,500 bonds for paving 10th st.

**Hutchinson, Kan.**—City Commissioners have ordered construction of permanent sidewalks on Sherman st.—F. L. Martin, Mayor.

**Hutchinson, Kan.**—Citizens will vote on proposition to borrow \$30,000 for constructing brick crossings at every necessary corner in city, not now provided with crossings.

**Leavenworth, Kan.**—Bids will be advertised for paving Euclid ave. and Adams st.

**Turon, Kan.**—Residents are considering improvement of all main roads leading to this city.

**Louisville, Ky.**—The Mayor and Board of Public Works are urging numerous street improvements.

**Estherwood, La.**—Dr. Z. J. France desires prices on road graders, scoops and other road machinery.

**Hammond, La.**—Council has ordered construction of one-half mile of sidewalks on West Side.—S. L. Powlett, Mayor.

**Boston, Mass.**—Board of Street Commissioners has passed orders for construction of two streets in South Boston, one in East Boston, two in West Roxbury, eight in Dorchester, five in Roxbury and public alley No. 425 in city proper.—G. C. Emerson, Superintendent.

**Dighton, Mass.**—Town has voted \$1,300 for roads.

**Dracut, Mass.**—Town has voted \$3,000 for highways and bridges.

**Essex, Mass.**—Town has voted \$1,000 for roadways and bridges.

**Everett, Mass.**—Plans have been pre-

pared for the construction of 12,000 sq. yds. of brick pavement, cost \$4,000, and 4,300 sq. yds. of granite pavement, cost \$18,000.—Christopher Harrison, Everett, Engineer; C. A. Libby, Everett, has charge of the work.

**Haverhill, Mass.**—Council is figuring on a 12,000-ton contract for crushed stone with outside parties.

**Haverhill, Mass.**—Council has passed order for \$100,000 bond issue for permanent street work and \$10,000 for sidewalks.

**Malden, Mass.**—Cost of extending Jackson st. has been estimated at \$49,795; Street and Water Commission has asked for \$10,000 for new streets and \$5,000 for sidewalks.

**Manchester, Mass.**—Town has voted \$18,000 for highways.

**Albert Lea, Minn.**—City Engineer has estimated amount of paving ordered at 25,700 sq. yds. and Council will receive bids on brick, Blome concrete, mineral rubber, macadam, sandstone block and creosote block.

**Gilbert, Minn.**—Missabe Township Board has ordered construction of sidewalk from township limits to Iron Range depot.

**Bay City, Mich.**—Bay County Road Commissioners will construct 6 miles of macadam roads.—John H. Bloomfield, 310 Shearer Bldg., Engineer.

**Clarksdale, Miss.**—Coahoma County Commissioners will issue \$75,000 road and bridge bonds.

**Shubuta, Miss.**—City has decided to construct cement sidewalks on Eucuttia St.

**Independence, Mo.**—City is considering construction of 1 block of brick block alley paving, 5 blocks of artificial stone curbing and 3 blocks of Hassam paving.—H. H. Pendleton, City Engineer.

**St. Joseph, Mo.**—Board of Public Works has adopted ordinances for paving portions of three streets.

**Norfolk, Neb.**—Council will pass ordinance for paving Norfolk ave.

**Omaha, Neb.**—Estabrook & Co., Boston, have purchased \$100,000 paving intersection bonds.

**Wymore, Neb.**—Township Committee has set aside \$1200 for road improvements.

**Absecon, N. J.**—Bids will be received by Engineer Chas. W. Grossart, 6th and Hamilton sts., Allentown, in about five weeks for cement curbing and walks, 90-ft. macadam roadway, 2½ miles long, and grading for the Atlantic City Heights Realty Co.

**Annapdale, N. J.**—Prominent residents of this section are urging macadamizing of public road from this place to Clinton; distance about two miles.

**Camden, N. J.**—Council has decided to pave Spruce st.—W. D. Brown, clerk.

**Elizabeth, N. J.**—El Mora Association is urging paving of some of streets in this section of city.—H. M. Woodard, Chairman Paving Committee.

**Paterson, N. J.**—Board of Freeholders, Bergen County, will issue \$400,000 good road bonds.

**Rahway, N. J.**—Council is considering macadamizing of Jaques ave. and Commerce st.

**Verona, N. J.**—Council has provided \$3,500 in budget for improvement to roads.

**Westfield, N. J.**—Council is considering improvement of portions of eight streets.

**Binghamton, N. Y.**—Board of Supervisors will consider corrected plans of Kirkwood road.—A. L. Bonnell, Clerk.

**New York, N. Y.**—Bids will be received by Park Board Mar. 17, 3 p. m., for furnishing and delivering 10,000 cu. yds. of sandy loam for the Harlem River Drive-way, Manhattan Boro; also (1) for furnishing and delivering 7,000 cu. yds. of clay loam where required on parks, Manhattan Boro; (2) for furnishing and delivering 3,000 cu. yds. of organic mould or humus where required on parks.

**New York, N. Y.**—Commissioner Stover of the Park Department has asked Chief Engineer Edward Miller to submit to him cost of widening 86th st. transverse road in Central Park 4 ft.

**New York, N. Y.**—Bids will be received March 21 by Controller Prendergast for \$1,000,000 street bonds.

**Whitesboro, N. Y.**—Village has been granted permission to borrow money for pavement and street improvements.

**Concord, N. C.**—City will spend about \$1,500 on sidewalks this spring and summer.

**Roxboro, N. C.**—City is considering bond issue for paving streets and sidewalks; engineer not yet selected.—N. Lunsford, Mayor.

**Wadesboro, N. C.**—Citizens will vote Apr. 5 on \$10,000 bonds for street improvements.—W. K. Boggan, Mayor.

**Washington, N. C.**—City is considering \$35,000 expenditure in street improvements.—Geo. T. Leach, Chairman Street Committee.

**Bucyrus, O.**—Council is considering paving of following streets: Mansfield and Public Square, 7,000 sq. yds.; Galion st., 12,000 sq. yds.; Rensselaer st., 3,000 sq. yds.; Mid-

dletown st., 3,300 sq. yds.—T. L. Niederheiser, City Engineer.

**Canal Dover, O.**—City is considering constructing about one mile of street paving this season.

**Cincinnati, O.**—Bids may be readvertised for improving Reading rd.; cost about \$325,000.

**Circleville, O.**—City will construct 42,000 sq. yds. vit. brick paving, with concrete base and cement filler.

**Hamilton, O.**—Plans are being prepared by City Engineer F. Weaver for vit. brick or asphalt paving on East ave. and B st., length 1½ miles.

**Hamilton, O.**—Butler County Board of Commissioners is considering improving about two miles on Oblinger rd.—L. A. Dillon, County Engineer.

**Mansfield, O.**—Board of Public Service is considering constructing 15,000 sq. yds. paving on Forest st., 5,000 sq. yds. on Franklin st. and 668 sq. yds. of alley around High School.

**Middletown, O.**—Board of Public Service is considering constructing about nine blocks of vit. brick or asphalt paving, with concrete curb, on Baltimore st.—W. E. McElree, City Engineer.

**Newark, O.**—Licking County Board of Commissioners will construct macadam pavement on Grandville and Wilkins rds. during summer.—F. S. Scully, County Surveyor.

**Oakwood, O.**—Engineer Kenneth Allen is preparing plans for road improvements.

**Portsmouth, O.**—Council has passed resolutions for improving portions of certain streets.

**Shelby, O.**—C. L. Bushey, Mansfield, has prepared plans for three-quarter mile of block paving.

**Steubenville, O.**—Council has passed a resolution for curbing Bellevue blvd.; cost \$6,653.75.—Thos. W. Porter, Mayor.

**Enid, Okla.**—City Commission will readvertise for bids for \$107,000 worth of paving; Warner-Quinlan Asphalt Co., lowest bidder, \$2.07 per sq. yd.

**Oklahoma City, Okla.**—Council is considering resolution for paving in Capitol Hill.

**Portland, Ore.**—Grand ave. will be extended southward along brink of river bank.

**Chambersburg, Pa.**—Burgess Wm. Alexander has recommended extension of paving into central portion of city.

**Greensburg, Pa.**—Westmoreland County will employ road engineer to prepare plans for system of main highways for county.

**Hazleton, Pa.**—Council has passed on second reading ordinance appropriating \$5,000 for paving S. Laurel st.

**New Hope, Pa.**—Town will open Stockton ave.

**Philadelphia, Pa.**—Chief McLaughlin, of Electrical Bureau, has estimated cost of paving with wood all main streets between Vine and South sts., Delaware and Schuylkill rivers, at \$2,900,000; paving area, 769,610 sq. yds.

**Scranton, Pa.**—Mayor John Von Bergen, Jr., has signed seven paving ordinances.

**Chattanooga, Tenn.**—Board of Public Works has ordered construction of sidewalks on Main st.

**Dresden, Tenn.**—Weakley County is considering construction of graveled pike road from this city to Martin.

**Austin, Tex.**—Council has passed ordinance providing that property owners must construct sidewalks within time and after the manner prescribed by Council.

**Bartlett, Tex.**—Construction of system of good roads is being urged.

**Clifton, Tex.**—Council has ordered \$2,500 expenditure for street improvements.

**Dallas, Tex.**—Engineer C. A. Gavin is preparing preliminary plans for road improvements under \$500,000 bond issue.

**Denton, Tex.**—Citizens will vote May 7 on street and sidewalk improvements.

**El Paso, Tex.**—City Engineer F. H. Todd has estimated cost of paving Myrtle ave. at \$19,423.54.

**Fort Worth, Tex.**—City Commission has granted paving petitions for May st. and Magnolia ave.

**Paris, Tex.**—Citizens have voted \$60,000 bonds for paving Lamar ave., Graham st., portion of public square and North Main st.; about two miles of street improvements. E. H. McCulstion, Mayor.

**Pecos, Tex.**—Council has decided to resurvey town and establish grades for both sidewalk and sewerage purposes.

**San Angelo, Tex.**—Citizens will vote April 5 on paving of Chadbourne and other streets.

**Provo, Utah.**—Council is considering construction of 23,813 ft. of sidewalk paving and connecting of all principal sidewalks with suitable street crossings.

**Richfield, Utah.**—County Commissioners will expend \$2,000 in improving roads.

**Chatham, Va.**—Board of Supervisors has appropriated \$4,000 to macadamize road through this city.



Lynchburg, Va.—Brookville District contemplates macadamizing 1 1/4 miles of road at early date.

Norfolk, Va.—Public Improvement Committee has recommended \$40,000 expenditure for street paving.—W. T. Brooke, City Engineer.

Richmond, Va.—Council is considering annual budget; appropriations asked include smooth pavement and sidewalks around John Marshall School, \$20,000; grading, graveling and granite spall paving, \$75,000; curbs and gutter, \$25,000.—Charles E. Bolling, City Engineer.

Spokane, Wash.—Plaza Township has voted \$1,500 for road purposes.

Walla Walla, Wash.—Paving of three important streets is being considered.

Berlin, Wis.—Paving of Huron and Spring sts. with bitulithic pavement is proposed; cost \$20,000.

Sheridan, Wyo.—City is considering paving of important streets.

Moose Jaw, Sask., Can.—City Engineer will prepare specifications for paving five streets; cost \$140,000.

Woodstock, N. B., Can.—City will make application to Legislative Assembly to borrow \$10,000 for building permanent streets. J. C. Hartley, Town Clerk.

### CONTRACTS AWARDED

Los Angeles, Cal.—Improving Banning st., to Barber Asphalt Paving Co., Henne Bldg., 17.1c. per sq. ft. for asphalt paving.

Los Angeles, Cal.—76,200 tons of crushed rock, to Portland Cement Co.

Springfield, Ill.—Paving Jefferson st. with brick and asphalt fill, about 4,400 sq. yds., bids opened March 2, to Henry Nelch & Son, 2d and Cedar sts., \$6,270.

Atlantic, Ia.—Paving Chestnut st., to Capital Construction Co.

Mason City, Ia.—Paving, to Geo. Gabler; 26,000 sq. yds. cement concrete paving, \$1.25 per sq. yd.; 10,000 sq. yds. brick block paving, \$1.90 per sq. yd., and 14,000 lin. ft. cement curbing, 40c. per lin. ft.—F. P. Wilson, City Engineer.

Fort Scott, Kan.—Paving 3d st., to Midland Construction Co., \$10,000.

Ottawa, Kan.—Thirty-eight blocks of macadam pavement with asphalt binder, bids opened March 2, to N. E. Stucker, 93c. per sq. yd.

Flint, Mich.—Paving with asphalt portion of 3d st., to J. F. Hill, for \$13,378.

Ocean City, N. J.—Tearing down and rebuilding boardwalk nearer ocean between 10th and 13th sts., to Joseph G. Champion, who will also build walk between 16th and 17th sts.

Dundee, N. Y.—Two miles, Reading-Dundee rd., to Monroe Road Co., Pittsford, \$26,058.

Toledo, O.—Trilby macadam roads, to Gorrigan Bros., \$22,210.

Wadsworth, O.—Curbing and paving College st., to Ohio Engineering Co., Elyria; South Main st., to George Herring & Son, Mansfield; estimated cost \$30,000.

Pittsburg, Pa.—Furnishing 49,640 tons of screenings and ballast to be used for improved roads during present year, price given per ton: Reed F. Blair & Co., for Nobletown, Dinsmore, Campbell's Run, Ridge roads, \$1.09; Steubenville pike, Bellevue road, \$1.07; Clydesdale Stone Co., McKees Rocks and Forest Grove, \$1.07, and Library road, \$1.19; McLaughlin Constr. Co., 223 4th ave., Washington pike, \$1.16, and Verona road, \$1.13; Booth & Flynn, 1942 Forbes st., Logan's Ferry road, \$1.19; J. C. McSpadden, 326 4th av., Evergreen Extension, Kittanning and Dorseyville roads, \$1.04; Troy Hill and Peoples roads, \$1.05; A. V. Purnell, Lincoln Way and Dravosburg roads, \$1.07. Hauling: Sebolt & Skiles, McKees Rocks and Forest Grove 60c., Washington pike 70c., Verona 50c., Logan Ferry 40c., Dravosburg 35c., Bellevue \$1.25; Flynn Bros., Kittanning and Dorseyville, \$1.59; Eagle Transfer Co., Nobletown 59c., Steubenville pike extension 74c., Ridge 59c.; Edward Vero, Peoples, 90c.; Donald McNeill, Library, 44c.; Conestoga Contr. Co., Lincoln way 52c., Washington road \$1.06; Evergreen Extension \$1.30, Freeport 66c., Troy Hill \$1.15; H. D. McDunn, Dinsmore 47c., Campbells Run 49c.

Temple, Tex.—8,000 ft. of concrete sidewalks, to A. Dienst and Walter Gardenhire.

Norfolk, Va.—Laying creosoted wood block on Chapel st., to U. S. Wood Preserving Co., \$5,167.50.

Tacoma, Wash.—Grading Proctor st., to Anderson & Lilybeck, \$4,408; seven other bidders.

Racine, Wis.—Eleventh and Racine sts., 18,226 sq. yds. 4-in. brick, 5-in. foundation, to Western Improvement Co., \$1.98 per sq. yd.; also setting 11,220 lin. ft. combination curb and gutter, to same firm, 54c.; H. C. Hanson, \$42,571.86; T. E. Wooley, \$42,240.26; Bacheller & Powell, \$42,763.12; P. B. Johnson, \$42,482.88; Jas. Cope & Son, \$44,223; N. F. Reichert, \$42,454.96; E. Harding Co., \$42,426.52, and Federal Improvement Co., \$43,155.56.—P. N. Connolly, City Engineer.

### BIDS RECEIVED

Marion, Ind.—Paving: Dearborn & Jackson, brick block paving, \$1.65 per sq. yd.; M. Ford, brick block paving, \$1.63 per sq. yd.; H. J. Parker, brick block paving, \$1.71 per sq. yd.; Concrete Construction Co., curbing, per lin. ft., 33 2/5c.; Lewis H. Dennis, curbing, per lin. ft., 38c.

Des Moines, Ia.—Paving with creosoted blocks, portion of 8th st., price given per sq. yd.: Jas. Horrabin, \$2.49; O. P. Herrick, 107 Locust St., \$2.59; Christie Constr. Co., \$2.60; Q. Miracle Concrete Co., \$2.64; total cost about \$7,000.

New York, N. Y.—Furnishing all the labor and materials required for furnishing and delivering following: (a) 12,000 tons of broken stone and screenings in District No. 1; (b) 12,000 tons of broken stone and screenings for District No. 2; (c) 12,000 tons of broken stone and screenings for District No. 3: J. E. Conklin, (a) \$1.50, (b) \$1.65, (c) \$1.75; Quinroy Construction Co., (a) \$1.74, (b) \$1.95, (c) \$2.15; Clinton Point Stone Co., (a) \$1.50, (b) \$1.62, (c) \$1.67; Joseph Johnson Sons, (a) \$1.55, (b) \$1.65, (c) \$1.70; Manhattan Trap Rock Co., (a) \$1.42, (b) \$1.73, (c) \$1.77.

Harrisburg, Pa.—Paving Laureton st.: Central Construction and Supply Co., \$1.62 per sq. yd. for California sheet asphalt; curbing, 75c. for granite, 47c. for steel-bound granolithic, 40c. for plain granolithic and 20c. for resetting. Barber Asphalt Paving Co., Trinidad Lake asphalt, \$1.74; curbing, 78c. for granite, 46c. for steel-bound granolithic and 20c. for resetting. Stucker Bros. Construction Co., \$1.95, vitrified brick; curbing, \$1 for granite, 55c. for plain granolithic and 20c. for resetting.

Seattle, Wash.—Paving: Alley between Front and Main ave., Bernard to Browne st., and from Front to Main ave., between Bernard and Browne sts.; estimated cost, \$4,650. Independent Asphalt Paving Co., Bailey Bldg., \$4,100; Barber Asphalt Co., Mutual Life Bldg., \$4,539. Broadway, asphalt; estimated cost, \$58,899. Western Asphalt Paving Co., \$55,000; Independent Asphalt Paving Co., \$56,900; Barber Asphalt Paving Co., \$55,984. Fifth ave.; estimated cost, \$13,200. Independent Asphalt Paving Co., \$11,800; Barber Asphalt Paving Co., \$13,220. Third ave.; estimated cost, \$14,400. Western Asphalt Paving Co., \$13,377; Barber Asphalt Paving Co., \$14,359; Independent Asphalt Paving Co., \$14,800. Pave, grade, curb and park, oileroid, 10th ave.; estimated cost, \$6,600. H. L. Lillenthal, \$7,800.

### SEWERAGE

Inglewood, Cal.—City Trustees have decided to construct vit. pipe storm drains on Commercial and Oak sts. and Damask ave.

Oroville, Cal.—Citizens will vote on \$120,000 bonds for installing sewer system.

Arcadia, Fla.—Citizens will vote on \$30,000 bonds for extending sewer system, improving water supply and erecting school building.

Milton, Fla.—City has selected Solomon-Norcross Co., 1622 Candler Bldg., Atlanta, Ga., to prepare plans for sewer system.

Atlanta, Ga.—Dr. George Brown, President Pine Ridge Sanitarium, desires information and prices on sewerage system for sanitarium.

Fort Valley, Ga.—City is considering bond issue for construction of sanitary sewer system.

Gooding, Ida.—Louis C. Kelsey, Salt Lake City, will prepare plans for sewerage system; cost \$50,000.

Harley, Ida.—Construction of sewerage system, cost \$40,000, is being considered by Commercial Club.

Centralia, Ill.—Council will extend sewer in east side at cost of \$2,000.

Edison Park, Ill.—Plans are being prepared by Engineer H. H. Bremer, 100 Washington st., Chicago, for sewer outlet in connection with outlet for Norwood Park.

Momence, Ill.—Board of Local Improvements has decided to install \$50,000 combination storm and sanitary sewer in the city this spring.

Warden, Ill.—Sewer district has been established by village; cost \$25,000.

Waukegan, Ill.—Council has passed an ordinance for constructing sewers in portions of various streets.—H. Thacker, City Clerk.

Bloomington, Ind.—Plans will soon be prepared for the construction of a new sewer system for this city.

Spirit Lake, Ia.—City has not as yet selected engineer for proposed sewer system; cost \$30,000.

Leavenworth, Kan.—Ordinances calling for construction of branch sewers to trunk sewer in the Ninth District in south part of the city have been passed by Board; cost \$25,000.

Leavenworth, Kan.—Plans, specifications and estimates for system of lateral sewers in District No. 9 have been approved by Board of Commissioners; sewer will cost \$21,000 and 17 branches \$25,000.

Ottawa, Kan.—Plans have been prepared by City Engineer Claude S. Pugh for one block of 8 and 10-in. vit. pipe lateral sewer and extension of mains.—F. A. Marcell, City Clerk.

Haverhill, Mass.—Council has passed order for \$30,000 bond issue for sewers.

Flint, Mich.—Plans have been approved for sewer on Harrison st.

Springfield, Mo.—City Engineer Horton has prepared plans for construction of sewer in district bounded by College, Fort, Walnut and New sts.

St. Louis, Mo.—Council is considering ordinances authorizing letting of contracts for sewers in Glaise Creek and North Harlem Creek Joint Sewer districts, and for two sections of the River des Peres foul water sewer; total cost \$1,408,000.

Camden, N. J.—Council has decided to install sewer in Thurman st.—W. D. Brown, Clerk.

East Orange, N. J.—Council has ordered construction of drain in Fifth Ward.—L. E. Rowley, City Clerk.

Gloucester, N. J.—Street Committee will advertise for bids for sewers on certain streets.

Orange, N. J.—City Engineer F. T. Crane has estimated cost of drainage for parkway from Orange Park to S. Orange ave. at \$2,200.

Roselle, N. J.—Borough will have plans and maps drawn for extension of sewer through Linden.

Plainfield, N. J.—Citizens will vote in May on sewer question.—Frederick Martin, Borough Clerk.

Trenton, N. J.—Council is considering construction of sewer on Stuyvesant ave., Beach and Frazer sts.

Westfield, N. J.—Council has finally passed ordinance to construct 8-in. sewer in two streets.

Albany, N. Y.—Bids will be advertised by Board of Contract and Supply for sewers north of Western ave. and on three other streets.

Buffalo, N. Y.—Commissioner Ward has prepared plans for system of sewers to stop flow of sewage into canal.

Rochester, N. Y.—City Engineer Fisher and Assistant Engineer John Skinner have submitted plans for city-to-lake sewer outlet to State Commissioner of Health E. H. Porter.

Rome, N. Y.—Engineers Knight & Hopkins, 102 W. Dominick st., have submitted alternative propositions to Council for sewerage system; cost \$160,000.

White Plains, N. Y.—Construction of sewer on Lafayette st. is being urged.

Woodhaven, N. Y.—Homestead Civic Association is urging construction of sewers in this city.

Bucyrus, O.—Council will soon advertise for bids for 1,800 ft. of 12-in. sewer for the city outlet.—T. L. Niederheiser, City Engineer.

Cincinnati, O.—Council has requested that a plan be submitted at once for sewage disposal plant for Westwood.

Circleville, O.—City will construct 1,200 ft. of 18-in. and 24-in. pipe sewer, with catch basins.—J. W. Lane, Director of Public Service.

Cleveland, O.—Plans are being prepared for construction of a sewer up Dugway Brook; cost \$58,000.

Mansfield, O.—City will construct 23,000 ft. of 8-in. sewer and 2,500 ft. of 36 to 30-in. pipe sewer on Main st.—S. F. Bell, President Board of Public Service.

Middletown, O.—Board of Public Service is considering construction of a reinforced concrete and vit. pipe sewer system; cost \$100,000.—W. E. McElree, City Engineer.

Portland, Ore.—City is planning to establish two sewer districts known as East 26th st. and Powell st. districts; former will cost \$40,583 and latter \$20,455.

Wilmington, O.—Plans have been approved for proposed sewerage system.

Chambersburg, Pa.—Burgess Wm. Alexander has recommended installation of sewer system.

Erie, Pa.—City must rebuild canal sewer; cost \$15,000. Address City Engineer Briggs.

Hazleton, Pa.—Council has passed on second reading ordinance for sewers on N. Wyoming st.

Harrisburg, Pa.—Council has finally passed ordinance for construction of terra cotta pipe sewer on 19th st.

Meadville, Pa.—City has rejected bids for sewer on Grove st. and will readvertise.

Delmont, S. D.—Construction of sewer system is being considered.

Huron, S. D.—Council is considering construction of sewer on Montana st.

Howard, S. D.—Commercial Union is interested in installation of sewer system.

Columbia, Tenn.—Board of Aldermen is

considering construction of Helm's branch sanitary sewer; cost \$10,000; estimates by City Engineer Southgate and C. J. Akin.

**Knoxville, Tenn.**—Sanitary sewer laterals will be laid on Wells st. and Eleanor ave.

**St. Elmo, Tenn.**—Engineer James A. Fairleigh, Memphis, has estimated cost of constructing sewer system at from \$35,000 to \$40,000.

**Beloit, Wis.**—Council has passed ordinance for constructing 2½ miles of sanitary sewer.

**Racine, Wis.**—City Engineer will prepare plans for rebuilding sewer between 7th and 10th sts., and from 14th to 16th sts.

**Thermopolis, Wyo.**—City proposes to construct sanitary sewer system this summer.

—J. B. Chessington, City Engineer.

**Toronto, Ont., Can.**—Plans have been prepared for construction of a complete system of sewers for Midway and East Toronto.

### CONTRACTS AWARDED

**Los Angeles, Cal.**—Santa Fé main sewer, to R. N. Nikcevic, \$36 per lin. ft. for sewer pipe, \$1.87 for 6-in. Y branches, \$63 each for manholes with junction chambers.

**Rockford, Ill.**—Sewers, East End District sewer, to M. M. Kinnear, city, \$10,245; Rockton ave. and Garfield ave. sewers, \$3,461.

**Holton, Kan.**—Sewer system and disposal works to P. A. Johnson & Co., Kansas City, \$45,204. Other bids received were: S. M. Kerns, Denver, Colo., \$46,222; St. Joseph Constr. Co., St. Joseph, Mo., \$49,049; Reed & Tripp, Clay Center, \$51,258; McGuire & Stanton, Leavenworth, \$52,068. The work consists of about 10 miles of sewer, septic tank and filter beds.—Wm. C. Bryant, Engineer.

**Hebron, Neb.**—Constructing main sewer, to Lang & Browitt, University place, \$2,936, and lateral sewers, \$10,590.

**Medina, N. Y.**—Addition to sewerage system, to Fred A. Gott, Hamburg, \$27,750.

**Long Island City, L. I., N. Y.**—Sewers in Hunter's Point section, to J. L. Sigretto, 215 Montague st., Brooklyn, \$32,523; 4th ave., to Gabriel Hill, Ravenswood, L. I., \$5,633.

**Dallas, Tex.**—Storm sewer, Ross ave., to G. S. Vivian, \$1,224.80.

### BIDS RECEIVED

**Metropolis, Ill.**—Sewers: Reeb Bros., Belleville, \$57,659; E. R. Harding, Racine, Wis., \$59,639; G. W. Kattisjohn, Paducah, Ky., \$60,080.34; E. S. and B. S. Crain, Murphysboro, \$61,252.89; and J. E. Franz & Co., Pittsburg, Pa., \$67,953.—E. A. Wilson, Secretary Board of Local Improvements; for further information address D. Roberts, Engineer, Room 530 Woolner Bldg.

**Rockford, Ill.**—East end sewers: M. M. Kinnear, city, lowest bidder, \$10,244.95; 10,225 ft. 9-in. tile, 52c.; 2,780 ft. 12-in., 65c., and 2,027 ft. 15-in., 75c.; ground water to be handled; manholes, \$35. Other bidders: I. Vanderwalker, \$10,647.10; G. Maffiali, \$11,450.60; Ottawa Construction Co., \$11,483.37; Robert Nelson, \$14,176.60, and Jas. Healey, \$14,017.76.—S. B. Hand, City Engineer.

**Grinnell, Ia.**—Sewers: G. E. Smith, Indianola, lowest bidder, \$5,267.70; 1,860 ft. 24-in. standard pipe, \$1.18; 354 ft. 22-in., \$1.88; 450 ft. 20-in., 94c.; 1,050 ft. 18-in., 82½c.; 1,095 ft. 12-in., 56c., and 716 ft. 10-in., 52½c. Farrell Contracting Co., Davenport, \$5,335.57; Wm. Horrabin, Iowa City, \$5,260.63; Independent Construction Co., Davenport, \$5,367.70; Clark Lumber Co., city, \$6,201.35, and C. E. Desotuse, city, \$5,248.—W. H. Beard, City Engineer.

**Louisville, Ky.**—Section A of Castlewood sewer: Henry Bickel Company, Louisville; James Ferry & Sons, Pittsburg; C. T. McCracken & Co., Columbus, and Paul & Kershner, Dayton; contract price was fixed at about \$55,000.

**Baltimore, Md.**—Underwater discharge conduits, sanitary contract No. 47: B. F. Sweeten & Son, Camden, N. J., lowest bidders, \$44,916.40. Storm-water drains, contract No. 9: David Peoples, 213 N. Calvert st., city, lowest bidder, \$132,556.85.—Calvin W. Hendrick, Chief Engineer of Sewerage Commission, 94 American Bldg.

**Cleveland, O.**—Constructing 13 sewers: C. E. Doolittle, Baldwin road sewer, \$888; Elk ave., \$3,439; E. 100th st., \$2,721; P. M. Martens, Bragdon ave., \$508; E. 50th st., \$1,635; E. 51st st., \$530; E. 52d pl., \$363; Erin ave., \$973; E. 89th st., \$799. W. A. McDowell, Cannon ave., \$476; E. 86th st., \$3,574; Hoag & Zullo, Colonial Ct., \$515. A. H. Willis, \$1,243.

**Dayton, O.**—Haynes st. sewer, Hecker & Kershner, low bidders, \$6,801.05 for concrete with brick invert, and \$6,593.30 for plain concrete.

**Florence, S. C.**—Sanitary sewer system: Matthews-Johnson Company, city, lowest bidder, \$69,368.50.—H. S. Jaudon, Box 582, Savannah, Ga., Engineer.

**Dallas, Tex.**—Sewer pipe: San Antonio Sewer Pipe Co., 6-in. sewer pipe, 11¼c. per ft.; 100 6-in. Y's, 45c.; 11 vitrified stoppers, 3c. Athens Fire Brick Co., 6-in. pipe, 12c. per ft.; 6-in. Y's, 40c.; stoppers, 3c. each. Post Pipe Co., 6-in. pipe, 11¼c.; Y's, 45c.; stoppers, 3c. each.

### WATER SUPPLY

**Gadsden, Ala.**—City has selected Hazlehurst & Anderson, Candler Bldg., Atlanta, Ga., to prepare plans for proposed water works improvements.

**McGehee, Ark.**—Desha Water, Light & Manufacturing Co. has been incorporated with \$50,000 capital stock; has franchise for city water works and electric light plant.—E. F. Curran, Constructing Engineer.

**Burlingame, Cal.**—Town will install fire hydrants.

**Sierra Madre, Cal.**—City will secure right to waters of Little Santa Anita Creek for establishment of municipal water system.

**Grand Junction, Col.**—City is considering installation of water works system.

**Trinidad, Col.**—Council is considering street lighting plan modeled after that of Denver.

**East Hartford, Conn.**—City will construct seven miles of new mains.—J. H. Walsh, Superintendent of Water Works.

**Middletown, Conn.**—City will install storage reservoir.—Daniel McDonald, Superintendent of Water Works.

**Arcadia, Fla.**—Citizens will vote on \$30,000 bonds for the extension of water works system.

**Lakeland, Fla.**—City has sold \$65,000 water, light and other improvement bonds to Bagwell & Rogers, Jacksonville.

**Milton, Fla.**—City has selected Solomon-Norcross Co., 1622 Candler Bldg., Atlanta, Ga., to prepare plans for water works.

**Fort Valley, Ga.**—City is considering bond issue for water works improvements.

**Wrightsville, Ga.**—City will construct water works; \$25,000 bonds available.

**Caldwell, Ida.**—Citizens have voted \$60,000 bonds for the extension of water works.

**Coeur D'Alene, Ida.**—Citizens will vote on \$137,000 bonds for purchase of present water works.

**Meridian, Ida.**—Citizens have voted \$20,000 for installation of water system.

**Chicago Heights, Ill.**—City is considering issuance of \$30,000 bonds for complete overhauling of water plant.

**Macomb, Ill.**—City has passed ordinance for issuance of \$40,000 of bonds for construction of water works.

**Maywood, Ill.**—Citizens have voted \$30,000 bonds for construction of system of water works and repairing streets.

**Moweaqua, Ill.**—Town has voted \$9,000 bonds for extension of water works.

**Waukegan, Ill.**—Fire Chief Sars O'Farrell has recommended construction of large settling basin at the water works.

**Boonville, Ind.**—Council has adopted resolution for construction of reservoir; cost \$22,000.

**Green Castle, Ind.**—Construction of filtration plant is being considered.

**Indianapolis, Ind.**—Repair of Brightwood water plant is being considered.

**Frontenac, Kan.**—City will sell bonds for construction of a water works system.

**Plains, Kan.**—Citizens have defeated proposition to issue \$8,000 bonds for constructing system of water works.

**Sabetha, Kan.**—Bids will be received March 22 for laying 12 miles water pipe and constructing concrete reservoir; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Russell, Kan.**—Bids will be received March 18 for constructing concrete dam; cost \$15,000; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Wakefield, Kan.**—Bids will be received March 25 for extending water works plant; cost \$15,000; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Clifton, Ky.**—City is considering \$12,000 water works bond issue.

**Lexington, Ky.**—Joint Light and Water Committee will recommend installation of 16 hydrants.

**Westernport, Md.**—Citizens are urging better water supply.

**Haverhill, Mass.**—City will sell \$4,000 watering bonds.—Address City Treasurer Jacobs.

**Holyoke, Mass.**—Board of Water Commissioners will ask \$150,000 bond issue for making proposed improvements at Fomer reservoir.

**Lawrence, Mass.**—Water Board is considering extension of filter plant.

**Lowell, Mass.**—Water Board has voted to ask Council to pass \$75,000 loan for a new pump for Centralville station.

**Pittsfield, Mass.**—Board of Public Works has recommended construction of storage reservoir on Mill Brook; cost \$10,000.

**Springfield, Mass.**—Water Commissioners have ordered water mains extended 700 ft.

**West Bridgewater, Mass.**—City will construct municipal water works.

**Grand Rapids, Mich.**—The Pure Water Commission has accepted report of Hering & Fuller, of New York, N. Y., and following was recommended:

Intake, 48-in. pipe from river to low-lift pumping station on Canal st. side; cost \$6,000.

Low-lift pumping station, to include 4 motor-driven centrifugal pumps, each of nominal capacity of 8,000,000 gals. per 24 hrs., pumps to be electrically driven from generators in present combined pumping and lighting plants, \$21,000.

Settling and coagulating basins, for filtration without softening open concrete basins in 4 units of aggregate capacity of 5,500,000 gals., \$67,000. Reaction chamber for softening, where water would be thoroughly mixed and kept flowing at fairly high velocity for about 1 hour and to have a nominal capacity of 1,000,000 gals., \$40,000.

Filters and appurtenances, plant proper to consist of 5,760 sq. ft. of filter surface divided into at least 8 units, with storage room for chemicals and laboratories, offices and preparation and application of chemicals; head house with floor area of 9,000 sq. ft. and 3,500 sq. ft. for operating galleries for filters, \$115,000.

Clear water basin, concrete and 48 in. diam., to deliver to pump well at present pumping station water ready for circulation through mains, \$39,000; outside piping, \$37,000, and clear water conduit, \$25,000.

Total cost \$350,000. If softening works are omitted cost will be \$300,000.

**Grand Rapids, Mich.**—City has decided to construct water main to night soil dump at outlet of Prescott st. sewer; cost about \$1,549.

**Marble, Minn.**—Council will purchase steam pump and other necessary pumping station machinery.

**St. Paul, Minn.**—Water Board has ordered laying of two miles of pipe.—J. Cauldfield, Secretary.

**Zumbro Falls, Minn.**—Citizens will vote on \$2,000 bonds for extension of water works and sewer systems across river.

**Crenshaw, Miss.**—City is considering drilling artesian well about 1,200 ft. deep, 2 to 4½ in. diameter.

**Rolling Fork, Miss.**—Sharkey County Improvement Association will install machinery; water supply direct from flowing wells.—D. C. Casey, President.

**Malden, Mo.**—Plans are being revised by Engineers Archer, Rollins & Co., Beals Bldg., Kansas City, for system of water works; cost \$20,000.—L. N. Allen, City Clerk.

**Valley Park, Mo.**—Local Water Co. is considering extension of system.

**Columbia Falls, Mont.**—Water Works Co. will make considerable improvements to system.

**Orleans, Neb.**—Citizens have voted to construct water system.

**West Point, Neb.**—Council has ordered purchase of boiler and driving of 40 wells for water works.

**New Brunswick, N. J.**—Finance Committee is considering \$10,000 appropriation for laying water mains.

**Trenton, N. J.**—Hering & Fuller, expert engineers, New York, have been selected by Board of Water Commissioners to make necessary investigations and recommendations incidental to adoption of proper filtration system.

**Cortland, N. Y.**—Bids will be received March 18, p. m., for \$300,000 water bonds.—C. D. Sanders, City Chamberlain.

**Perry, N. Y.**—Plans have been submitted by Engineers Knight & Hopkins, 102 W. Dominick st., Rome, for increasing capacity of water system.

**Schenectady, N. Y.**—E. V. French, Boston, will investigate need of additional standpipe facilities for water works.—Geo. Holtzman, Superintendent.

**Bradford, O.**—City will make number of extensions to water system.

**Hamilton, O.**—Council is considering extension of water mains at cost of \$15,000.

**Salem, O.**—Superintendent Russell has recommended construction of reservoir and another basin at pumping station.

**Durant, Okla.**—Frank Schoener, of Roberts Filtration Manufacturing Co., will furnish plans for proposed \$14,000 filtration plant.

**Medford, Okla.**—Citizens will shortly vote on bonds for water extensions.

**Muskogee, Okla.**—Council is considering two-mile extension of water mains.

**Olustee, Okla.**—Plans have been prepared by O'Neil Engineering Co., Dallas, Tex., for system of water works.—D. D. Norris, City Clerk.

**Ramona, Okla.**—Bids will be received April 11 for the purchase of \$18,000 water works bonds.—A. A. Mikel, Clerk.

**Oregon City, Ore.**—Water Commission has decided to install another filter unit to water works system; cost \$4,000.



**Chambersburg, Pa.**—Burgess Wm. Alexander has recommended improvement of water supply.

**McKeesport, Pa.**—Board of Water Commissioners will ask for \$125,000 to operate filtration plant, lay pipe lines that are contemplated, and pay incidental expenses.

**Somerset, Pa.**—Council is considering following recommendations: Construction of a 500,000-gal. reservoir, erection of concrete reserve tank with 50,000-gal. capacity, drilling well, new pump, and additional pipe lines.

**Crowell, Tex.**—Crowell Water Supply Co. has been incorporated with \$10,000 capital stock by R. B. Edwards, J. W. Allison, M. F. Crowell and others.

**Dallas, Tex.**—City has rejected as too high bids for sinking artesian well.

**Gainesville, Tex.**—City will expend about \$40,000 in extending water mains and better equipping water plant lately purchased.

**Paris, Tex.**—Citizens have voted \$25,000 bonds for extending water mains in East and West Paris.—E. H. McCuiston, Mayor.

**Snyder, Tex.**—City is considering \$14,000 expenditure for construction of water works.—Fountain-Shaw Engineering Co., Dallas and Houston, Engineers.

**Ogden, Utah.**—Bids will be asked by city for laying concrete floor and siding 6-in. thick in new reservoir.

**Provo, Utah.**—Council is considering installation of water system on Eighth North st.

**Mt. Jackson, Va.**—Citizens will vote April 5 on \$12,000 bonds for installing supply of mountain water.

**Norfolk, Va.**—Chief Engineer T. B. Dornin has prepared plans for water works extensions and improvements; cost about \$250,000.

**Beloit, Wis.**—Council has ordered laying of mile of water mains.

**Pomeroy, Wash.**—City has sold \$16,500 bonds for improvement to water works; work includes 12,000 ft. of new 10-in. pipe and 1,200 ft. of 8-in.

**Tacoma, Wash.**—Council will readvertise for bids for boilers at Station B.

**Tacoma, Wash.**—Owing to irregularity in the specifications Commissioner of Public Works has refused to open bids received for furnishing city with 60-volt electrically operated oil switch at pumping station C.

**Keyser, W. Va.**—Citizens will vote on \$20,000 bonds for new reservoir and improving water system.

**Wheeling, W. Va.**—Pump house and intake line will be installed.—C. B. Cooke, City Engineer.

**Alma, Wis.**—City is considering installation of water works system.

**Jefferson, Wis.**—Citizens will vote on bonds for purchase of balance of interest in water works system.

**La Crosse, Wis.**—City is considering installation of sedimentation basin system.

**Medford, Wis.**—Council will issue \$30,000 bonds for installation of water system.

**Lander, B. C., Can.**—City is securing plans for new water system; cost \$125,000.

**Montreal, Que., Can.**—Citizens of St. Denis Ward have petitioned Board of Control to extend water system.

**Ottawa, Ont., Can.**—City Engineer Ker has recommended to the Water Commissioners that Bilings bridge site be secured for a reservoir; also that a water purification or filtration plant be constructed; cost \$400,000 to \$500,000.

**Winnipeg, Man., Can.**—City will call for tenders for 2,500 ft. of water pipe, also for 150 valves and 50 hydrants.

## CONTRACTS AWARDED

**San Francisco, Cal.**—Water and sewer work at Presidio, to John P. Leonard, San Francisco, Cal., water pipe lines, \$2,875; to Duncanson-Harrelson Co., San Francisco, Cal., for sewer pipe lines and grading, \$9,720.

**Waterbury, Conn.**—Laying 24-in. pipe line at Wigwam reservoir, to S. Camola, 123 Richmond st., Boston, Mass., as follows: 30 sq. yds. chopping and clearing, 30c.; 7,000 cu. yds. earth excav., 50c.; 200 cu. yds. rock excav., \$4; 30 lin. ft. 8-in. pipe, 40c.; 8,820 lin. ft. 24-in. pipe, 60c.; 300 lin. ft. 4-in. tile drain, 25c.; 40 cu. yds. rubble stone masonry, \$6; 17 cu. yds. brick masonry, \$16; 45 cu. yds. concrete masonry, \$9; 9 cu. yds. box culvert masonry, laid in cement, \$8; 30 lin. ft. vit. tile pipe, 12-in., 50c.; 30 lin. ft. vit. tile pipe, 18-in., 75c.; 44 lin. ft. vit. tile pipe, 24-in., \$1; 100 cu. yds. dry retaining walls, \$6; 200 sq. yds. stone paving, \$1; 300 cu. yds. slope walls, \$2; 47 cu. ft. cut stone coping, \$2; 300 cu. yds. gravel lining, \$1; 300 cu. yds. loose stone and riprap, \$1; balling and draining, \$500; testing pipes under pressure, \$300; 800 cu. yds. embankment, 30c.; 20 cuts cutting 24-in. pipe, \$3.50, etc.; total, \$14,178. Totals of other bids: Field, Barker & Underwood, Inc., 718 Arcade Bldg., Philadelphia, Pa., \$20,256; Antonia Lambo and P. Ciminiera, 642 Bank st., Waterbury, Conn.,

\$14,849; Henry Spinach Constr. Co., 216 Lounsbury St., Waterbury, Conn., \$23,933; Fred T. Ley & Co., Inc., 95 Bank st., Waterbury, Conn., \$23,597.

**Atlanta, Ga.**—Boiler for pumping station No. 2, to Babcock & Wilcox, city.

**Rock Island, Ill.**—Water main in the Sixth Ward, south of 16th ave., to P. F. Trenkenschuh; 12-in. pipe, \$2.27; 8-in. pipe, \$1.55; 6-in. pipe, \$1.10; 12-in. valves, \$60; 8-in. valves, \$40; 6-in. valves, \$30; fire hydrants, \$50, and specials, \$700.

**New Bedford, Mass.**—Supplying tapping sleeves and valves, to Water Works Equipment Co., gasoline pumping outfit, to Edson Manufacturing Co.

**Ft. Wayne, Detroit, Mich.**—Extension of water mains and construction of meter wells, to Wolverine Constr. Co., Detroit, \$3,640.

**Hebron, Neb.**—Furnishing material and improving water works, to Lang & Browitt, University Place, \$3,717.

**Oregon City, Ore.**—Installing filter at water works, to M. Sisenvine, San Francisco, Cal., \$4,000.

**Meadville, Pa.**—Building brick chimney, to Heine Chimney Co., Chicago, Ill., \$1,392.

—Harry Elsworth, Superintendent Water and Light Department.

**Norfolk, Va.**—Pumping station on Colby ave., to Baker & Brinkley, \$3,747.

**Shoshoni, Wyo.**—Construction of water works, to American Light & Water Co., Kansas City, Mo., \$41,830.

## BIDS RECEIVED

**Fort Riley, Kan.**—Water works system: Pipe line, W. W. Cook & Sons, city, \$19,800; lowest bid for boiler house and pump pit by John Dalton & Sons, \$14,960; Laidlow Don-Gordon Co. lowest on equipment of boilers and pumps.

**Wallington, N. J.**—Reinforced concrete water reservoir and extension of artesian wells from plans on file in the office of Borough Engineer A. L. Petersen, Passaic: (a) Total, including pumping and furnishing water; (b) total, excluding pumping and furnishing water; (c) total, not including roof, but furnishing water; (d) total, not including roof and not furnishing water. Rundell & Paxton, Reading, Pa., (a) \$12,229; (b) \$11,441; (c) \$10,125, and (d) \$9,388.—Chris D. Keyser, Borough Clerk.

**New York, N. Y.**—Furnishing and delivering eight 3 ft. x 8 ft. twin sluice gates, eight 20-in. hand-operated gate valves, 10 60-in. gate valves with individual electrical drive, four 60-in. gate valves with gang drive, two 60-in. hydraulically operated gate valves and appurtenances and three lines of floor drive shafting for structures at Ashokan reservoir and at Croton Lake siphon: Coffin Valve Co., Neponset, Boston, Mass., \$151,749; Wheeling Mould & Foundry Co., \$165,000; Ogden Iron & Steel Co., 147 Cedar st., New York, \$181,500; Pittsburgh Valve & Foundry Co., Pittsburgh, Pa., \$166,250.

**New York, N. Y.**—Furnishing, delivering and laying water mains in Clason Point road and in Burke st.: Hanover Contracting Co., \$29,244; Wilton Construction Co., \$24,801; Patrick Doris, \$30,008; Louis D. Gregory, \$26,609; Henry E. Fox, \$27,677; Atlanta Contracting Co., \$29,610; E. M. Mullen & Co., \$31,105; Daly, McAvey & Grippe, \$26,908; L. H. DeAmbra, \$35,972; Haggerty Contracting Co., \$26,794; Empire City Contracting Co., \$31,115; P. F. Flinn, \$25,783. Furnishing, delivering and laying water mains in Grand Boulevard and Concourse and in 181st st.: Hanover Contracting Co., 215 W. 120th st., New York, \$279,543; Wilton Construction Co., \$283,747; Louis D. Gregory, \$284,699; Atlanta Contracting Co., \$311,426; O'Leary & Flanagan, \$280,727; F. V. Smith Contracting Co., \$317,219; Goodman Contracting Co., \$332,790; D. Cuzzio, \$349,633; J. H. Gray Co., \$350,979; J. C. Rodgers, Jr., \$340,050; James R. Brown, \$317,119; C. W. Collins, \$310,603; Merrill Ruckgaber Co., \$408,555.

**Meadville, Pa.**—Building chimney: brick—Alphons Custodis Cons. Co., \$1,500; Heine Chimney Co., \$1,392; Standard Kiln & Chimney Con. Co., N. Y., \$1,700; H. R. Heinicke, Philadelphia, Pa., \$1,325; Bergen & Linderman, N. Y., \$1,415; Kiln & Chimney Con. Co., Brooklyn, \$1,578; M. W. Kellogg Co., N. Y., \$1,540; P. Crowe, Meadville, Pa., \$2,400. Reinforced concrete—S. B. Whining, N. Y., \$1,442; Undinholdt Cons. Co., Chicago, \$1,760; General Concrete Const. Co., Chicago, \$1,260; Alphons Custodis, N. Y., \$2,350. Radial brick, 100 ft. x 4 ft. 6 in. inside, not including foundations.—Harry Elsworth, Secretary Water and Light Department.

**Tacoma, Wash.**—Laying water mains on four streets: Galluci & De Rose, \$4,293; Anderson Bros., \$4,500; Bertelson & Sons, \$4,700; Lister Construction Co., \$4,440; McHugh & Conrad, \$4,769; Tignanelli & Patne, \$4,400.

## LIGHTING AND POWER

**Anniston, Ala.**—Anniston Electric & Gas Co. has asked Council for lighting contract with city at rates about 15 per cent cheaper than in vogue at present.

**Sylacauga, Ala.**—City has purchased water power on Hatchett Creek and will construct electric plant and transmission line for furnishing electricity.

**Little Rock, Ark.**—Council has appropriated \$55,000 for construction of electric light plant.—E. A. Kingsley, City Engineer.

**McGenee, Ark.**—Desha Water, Light & Mfg. Co. has been incorporated with \$50,000 capital stock; has franchise for city water and light system.—E. F. Curran, Constructing Engineer.

**Los Angeles, Cal.**—Citizens will vote April 19 on \$3,500,000 bonds for building power plants along line of aqueduct.

**Needles, Cal.**—Needles Light & Power Co. will erect reinforced concrete power house.

**Longmont, Col.**—City is considering construction of a hydroelectric power plant.

**Leesville, Conn.**—The East Hampton Electric Light Co. will rebuild dam and start the plant; cost about \$6,000.—E. W. Crocker, East Hampton, Superintendent.

**South Norwalk, Conn.**—Board of Electrical Commissioners will receive bids for enlargement of small electric light and power central station, distributing system, etc.—A. E. Winchester, Superintendent.

**Lakeland, Fla.**—City has sold \$65,000 light, water and other improvement bonds to Bogwell & Rogers, Jacksonville.

**Milton, Fla.**—City has selected Solomon-Norcross Co., 1622 Candler Bldg., Atlanta, Ga., to prepare plans for construction of water works, sewer system and electric light plant.

**Atlanta, Ga.**—Paulding County Power Co. has been incorporated with capital stock of \$40,000 by J. R. Gordon, R. L. West, J. M. Sheffield, E. Davis and W. O. Hitchcock.

**Jackson, Ga.**—W. F. Smith and associates will build water power electrical plant.

**Smyrna, Ga.**—Atlanta Northern Railway will erect two electrical substations.—P. S. Arkwright, Atlanta, President.

**Savannah, Ga.**—Flint River Power Co. has been incorporated with capital stock of \$1,000,000 by E. W. Fenn, John Burck and D. G. Zeigler.—D. G. Zeigler & Co., Mutual Life Bldg., Jacksonville, Fla., Engineers in Charge.

**Valdosta, Ga.**—Consolidated Ice & Power Co. will double capacity of electric light plant.—Geo. Varn, President.

**Decatur, Ill.**—Illumination of Merchant st. is being considered.

**Evansville, Ind.**—Installation of municipal lighting plant is being considered; cost \$15,000.

**Anamosa, Ia.**—Electric Light & Power Co. will make about \$50,000 worth of improvements at plant during coming year.

**Centerville, Ia.**—Southern Iowa Traction Co. will expend \$500,000 for installing power plants and improving line.

**Marengo, Ia.**—Marengo Electric Light & Power Co. has been incorporated to install electric light plant; capital \$15,000.

**Fairview, Kan.**—Citizens have voted \$25,000 bonds for construction of an electric light plant.

**Oakley, Kan.**—Citizens will vote on \$40,000 bonds for lighting and water works; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Louisville, Ky.**—D. X. Murphy & Bro. have prepared for improvement of power plant at 14th st. and Broadway; estimated cost \$150,000.

**Louisville, Ky.**—E. D. Veach, President of Board of Aldermen, has recommended installation of municipal light plant.

**Baltimore, Md.**—Board of Estimate is considering better lighting of Calvert st.

**Georgetown, Mass.**—Selectmen will consider lighting system for town. R. S. Howe is interested.

**Siwabik, Minn.**—Council is considering establishment of day current of electricity.

**Pine River, Minn.**—Village will vote March 22 on acceptance or rejection of proposition made by H. A. and T. L. Arvig, two local men, to establish electric light plant.

**Independence, Mo.**—Council is considering need of electric light plant.

**Kahoka, Mo.**—City will purchase number of electric and water meters.—A. H. Frazer, Superintendent.

**Liberty, Mo.**—Liberty Electric Light & Power Co. has been incorporated with \$50,000 capital stock by Washington D. Walker, Harry Walker and Lillie D. Walker.

**Malden, Mo.**—City will buy generator.—N. V. Turner, Mayor.

**Oregon, Mo.**—City is considering improvements to electric light plant, including installation of alternating-current and direct-current equipment and storage batteries.—Morton R. Martin, Superintendent.

**Fairbury, Neb.**—Citizens will vote on

\$135,000 bonds for purchase of present electric light plant or construction of new one.

**Plainview, Neb.**—Citizens have voted bonds for electric light plant.

**New Egypt, N. J.**—Local Water Co. is planning to extend charter and include light, heat and power.

**Woodbury, N. J.**—Harrison Township, Gloucester County, has granted 50-year franchise to East Greenwich Gas Co. to lay mains.

**Massena, N. Y.**—Plans have been completed by St. Lawrence River Power Co. for construction of large dam.

**Newburgh, N. Y.**—Mayor Benj. McClung has recommended that all high voltage wires be placed underground in spring.

**Andrews, N. C.**—Citizens have voted \$20,000 bonds to complete electric light plant and water works.—H. N. Wells, Mayor.

**Fayetteville, N. C.**—Thomas Badger, Jr., will improve lately purchased Fayetteville Gas & Electric Light Co.'s property.

**Beach, N. D.**—Council has granted franchise to Geo. Chrysler, Wadena, Minn., for installation of electric light system.

**Hamilton, O.**—Council is considering extension of gas mains at cost of \$25,000; also repair of city gas holder.

**Walter, Okla.**—City will construct electric light plant.—J. O. Dowd, Mayor.

**Wilburton, Okla.**—City has granted electric light, gas and oil franchise to McLoud Construction Co., Kansas City, Mo.

**Homer, Pa.**—Charter has been granted to Homer City Electric Co. to construct electric light plant; capital \$5,000.—C. Miller, President.

**Lebanon, Pa.**—Chas. V. Henry has applied for charter for company which is planning to supply Annville and Palmyra with gas. A. G. and O. A. Stauffer, Palmyra, and I. L. Beckley, city, incorporators.

**Philadelphia, Pa.**—Chief McLaughlin, of Electrical Bureau, has estimated cost of illuminating all streets between Vine and South sts., Delaware and Schuylkill rivers as follows: 4,457 new lamps, \$471,773.45; lighting lamps that are there at present time per annum, \$91,300; making total of \$563,073.45; 2,685 poles will be required at \$45 each; total \$120,335.

**Stroudsburg, Pa.**—Stroudsburg & Water Gap Railway Co. will build power station of 500-kw. capacity.—A. Holbrook, Wilkes-Barre, General Manager.

**Denmark, S. C.**—Denmark Ice Co. has secured franchise for construction of electric plant to furnish lighting for streets, residences and business buildings.

**Howard, S. D.**—C. A. Laurson has applied for franchise to operate electric light plant.

**Nashville, Tenn.**—Capitol Commission has authorized W. L. Sawyer, Superintendent of Capitol, to advertise for bids for installation of electric light plant in basement.

**Bridgeport, Tex.**—Bridgeport Brick Co. has purchased plant of Bridgeport Electric Co. and will furnish light and power to city.—C. W. Martin, President.

**Normangee, Tex.**—J. A. Parker desires prices on electric light plant for small town.

**Roscoe, Tex.**—B. F. Fitzgerald, Stanton, has decided to construct electric light plant.

**Provo, Utah.**—Council is considering construction of electric plant in Provo Canyon.

**Honaker, Va.**—George W. Douglas, Windber, Pa., is considering construction of electric light plant.

**St. Albans, Vt.**—Mayor S. C. Greene has recommended immediate settlement of matter of lighting streets.

**Orient, Wash.**—H. L. Moody, Spokane, and J. L. Leeper, city, will develop power and furnish lights for city.

**Snohomish, Wash.**—Council has granted Seattle and Tacoma Power Co. 20 years' franchise to run line of poles on 1st and Maple sts. for power and light purposes.

**Tacoma, Wash.**—Fire and Water Committee is considering purchase of 25,000 lbs. of copper wire.

**Wheeling, W. Va.**—Wheeling Electrical Co. has applied to Council for 50-year franchise to construct system to furnish light, heat and power.

**Milwaukee, Wis.**—Council is considering form to be used in advertising for bids for providing streets with gas lights; contract with Welsbach Gaslight Co. expires March

**Victoria, B. C., Can.**—Electric Light Committee will consider necessity of enlarging city's electrical plant.

**Montreal, Que., Can.**—Town has called for tenders for electric lighting by arc lamps, style "magnetite," of 1,200 to 1,500 c. p.; contract will be for 100 lamps, with privilege for town to increase that number.

—M. G. Ecrement, Secretary-Treasurer, Town of Maisonneuve.

**Parry Sound, Ont., Can.**—City proposes to install series street lighting system; also to install whole system on meters this year.—G. Groves, Superintendent.

## CONTRACTS AWARDED

**Sheffield, Ala.**—300-kw. rotary converter and a 40-kw. exciter, to Westinghouse Electric & Mfg. Co., Pittsburg, Pa.—W. R. Hall, Sheffield, General Manager Sheffield Co.

**Colton, Cal.**—Central gas plant for San Bernardino Valley Gas Co., to Stacy Mfg. Co., of Cincinnati, O., \$132,500.

**San Diego, Cal.**—28 and 60 x 48 vertical, cross-compound, condensing engine, which will receive steam at 160 lbs. pressure and exhausting into a 28-in. vacuum, for San Diego Electric Co., to Allis-Chalmers Co., Milwaukee.

**Fort Wayne, Ind.**—Unit electric works, to Fort Wayne Electric Works.

**Marion, Kan.**—Machinery for municipal light plant, to De La Veigne Machinery Co., R. A. Long, Bldg., Kansas City, Mo.

**Essex, Mass.**—Complete system of street lighting and commercial service for lighting and power, to Gloucester Electric Co.

**Akron, O.**—Lighting streets, to Cleveland Vapor Light Co.

## BIDS RECEIVED

**Winnipeg, Man., Can.**—Power testing transformers and switching apparatus: Canadian General Electric Co., \$138,250; Canadian Westinghouse Co., \$116,500; Siemens Bros., England, \$111,725; Terranti, Ltd., England, \$89,056; Kolbin & Co., Austria, \$72,100, not including testing transformers; Brown & Boveri, Switzerland, submitted bid for power transformers only, at \$39,700.

## FIRE EQUIPMENT

**Selma, Ala.**—City is considering purchase of triple combination engine.

**New Monterey, Cal.**—City will erect fire station and install equipment.

**New Haven, Conn.**—Fire Commissioners are desirous of securing automobile engine for engine house to be built in Prospect Hill district.

**Dover, Del.**—City will purchase chemical engine and install electric fire alarm system; W. H. Baker is interested.

**Wilmington, Del.**—Weccacoe, Fame and Washington Companies are considering purchase of auto combination hose wagon and chemical engine only.

**Boise, Ida.**—City is considering purchase of more hose, deluge set and hook and ladder truck.

**Coeur D'Alene, Ida.**—City is considering purchase of auto combination hose and chemical. Councilman Bird is interested.

**Gooding, Ida.**—City will purchase hose cart, chemical wagon and 2,000 ft. of hose. J. S. Crow, Chief.

**Bement, Ill.**—City is considering erection of fire house on south side.

**Carrollton, Ill.**—Town will purchase \$550 hose wagon.—C. A. Pendt, Chief.

**Cairo, Ill.**—Police, Jail and Fire Committee has recommended purchase of 2,000 ft. of hose, one hook and ladder truck, with 60-ft. ladder, 250-gal. chemical engine, hose wagon and several other pieces of equipment; bids will be advertised.

**Sandoval, Ill.**—City will erect fire station.—G. N. Sherman, Chief.

**Sullivan, Ind.**—City will purchase chemical engine.

**Paducah, Ky.**—City has purchased site for erection of fire station.

**New Orleans, La.**—City will install 50 additional fire alarm boxes.

**Hurlock, Md.**—Town is considering purchase of apparatus.

**Amesbury, Mass.**—Town will vote on installation of storage battery system for fire alarm.

**Danvers, Mass.**—Board of Engineers has recommended erection of fire station to be equipped with second-class steamer and auto hose wagon.

**Dighton, Mass.**—Town has voted \$1,200 for fire protection; joint department will be established with city of Taunton.

**Essex, Mass.**—Town has appropriated \$1,000 for fire department.

**Georgetown, Mass.**—Town has voted \$300 for purchase of hose.

**Gloucester, Mass.**—City will purchase \$800 hose wagon.

**Gloucester, Mass.**—Council has adopted order appropriating \$900 for purchase of hose.

**Holyoke, Mass.**—City has \$15,000 available for auto apparatus.

**Hyde Park, Mass.**—Ladder truck will be purchased at once.—J. H. Wetherbee, Chief.

**Manchester, Mass.**—Town has voted \$5,000 for auto chemical and hose wagon.

**Middlebury, Mass.**—Town is considering purchase of chemical engine.

**New Bedford, Mass.**—Committee on Fire Department and Board of Engineers will confer on needs of department to bring it to complete state of efficiency.

**Newburyport, Mass.**—Fire Committee will repair old truck and purchase more hose.

**Springfield, Mass.**—Council has rejected bids for fire headquarters in Dwight st.

**Winthrop, Mass.**—Town is considering purchase of \$4,500 chemical engine for the Highlands.

**Port Huron, Mich.**—Fire Commissioners are considering purchase of hose.

**Minneapolis, Minn.**—City will purchase lot on 27th ave., N. E., for erection of fire house.

**Minneapolis, Minn.**—Council Committee has rejected all bids for 10,000 ft. of fire hose; new bids will be called.

**Beatrice, Neb.**—Volunteer Fire Department will purchase hose wagon in near future.—R. R. Woelke, Chief.

**Claremont, N. H.**—Town has voted \$41,000 for fire department.

**Rochester, N. H.**—Town will purchase \$5,500 engine.

**Belmar, N. J.**—Fire District of Wall Township has voted to purchase combination chemical engine and truck.

**Glassboro, N. J.**—Joint Committee of firemen and Township Committee has decided to purchase site for erection of fire house.

**Hackettstown, N. J.**—Council is considering plans for better fire alarm system; 2,000 ft. of hose will be purchased.

**Paterson, N. J.**—Prospect Park Volunteer Hose Co. will purchase rubber coats.

**Westfield, N. J.**—Council has given second reading to ordinance appropriating \$20,000 for erection of fire house.

**Mount Morris, N. Y.**—Town will purchase 500 ft. of fire hose.—M. D. Baker, Chief.

**Newburgh, N. Y.**—Mayor Benj. McClung has recommended improvement of fire-alarm system.

**Oneida Castle, N. Y.**—Village is considering purchase of 1,000 ft. of hose and chemical engine.—Chester Martin, President.

**Troy, N. Y.**—Fire Committee has recommended purchase of modern fire truck, auto chemical and engine and 16 fire alarm boxes.

**Dayton, O.**—Ex-Director of Safety Theodore Liensch, Chief Ramby, of City Fire Department, and Supt. Timothy Hefferman, are considering better fire protection for Dayton View and Riverdale.

**Lakewood, O.**—City will purchase steamer and hose wagon.

**Warren, O.**—Purchase of chemical engine, cost \$4,000, is being considered.

**Oklahoma City, Okla.**—City is considering election on \$150,000 bonds for additional fire protection.

**Portland, Ore.**—Chief David Campbell will recommend purchase of three engines, two hose wagons and other equipment.

**Bethlehem, Pa.**—Chief Engineer Henry Fenstermacher, of Fire Department, has recommended purchase of 1,000 ft. of hose; Burgess W. E. Martin has recommended immediate replacing of destroyed equipment of Lehigh Hose Co.

**Chester, Pa.**—Felton Fire Co. is considering erection of fire house.

**Eden, Pa.**—Citizens of Eden, Bucks County, are taking measures for organization of fire company.

**Erie, Pa.**—Fire Chief McMahon is urging establishment of paid fire department.

**Shamokin, Pa.**—Fire Chief R. D. Zimmerman has recommended purchase of chemical engine.

**Orangeburg, S. C.**—Young America Fire Co. is considering purchase of apparatus.

**Briscoe, Tenn.**—City will at once purchase \$10,000 auto fire engine and hose wagon.

**Memphis, Tenn.**—City will purchase first-size steamer, two combination hose wagons, up-to-date spring-raising 85-ft. aerial truck, with full equipment.

**Lockhart, Tex.**—Council is considering bond issue for erection of fire station and city hall.

**Burlington, Vt.**—Board of Aldermen is considering erection of fire station in southern end of city.

**St. Johnsbury, Vt.**—Village has voted to erect central fire station and install combination motor fire engine; total cost \$25,000.

**Tacoma, Wash.**—City will secure site in north end for erection of fire station.

**Racine, Wis.**—Alderman Ritter will purchase 250 ft. chemical hose.

**Watertown, Wis.**—Special Committee has recommended purchase of 2,450 ft. of hose, 14 pairs of boots, 15 coats and 14 hats; also rewiring of electric lighting system in city hall.—J. L. Kehr, Chairman.

## CONTRACTS AWARDED

**Richmond, Cal.**—Fire hall and police station, to S. F. Jenkins; cost about \$7,000.

**New Brunswick, N. J.**—Installation of four-circuit system to replace present one, to Gamewell Fire Alarm Telegraph Co., \$2,490.



## BIDS RECEIVED

Philadelphia, Pa.—Truckhouse, 16th and Catherine sts.: J. R. Wiggins Co., lowest bidder, \$13,000.

## ELECTRIC RAILWAYS

Birmingham, Ala.—Birmingham Railway & Light Co. is considering extension of Powderly line to Elmwood Cemetery.—A. H. Ford, President.

Eureka Springs, Ark.—The Eureka Springs Electric Co. has been incorporated to build electric railway; capital \$100,000. Henry C. Brent, A. M. Barrow and J. D. Bowersock, incorporators.

Los Angeles, Cal.—Fullerton & Richfield Railway has been incorporated to build electric railway between Fullerton and Richfield; capital stock, \$130,000.—A. G. Wells, G. Holterhof, Jr., W. H. Brewer, J. L. Hibbard and C. W. Jones, Directors.

Oakland, Cal.—Residents in northern section of newly annexed district will be given street railway accommodations by Oakland Traction Consolidated as soon as Council establishes grades on streets.

Washington, D. C.—Washington Railway & Electric Co. will double-track its line to Congress Heights.—H. W. Fuller, General Manager.

Chicago, Ill.—Bonds, \$22,000,000, for reorganization of street railway system are being offered for public subscription.

Michigan City, Ind.—Berrien County has granted seven franchises to Southern Michigan Railway Co. for operation of line through various townships.

Portland, Ind.—Extension of Muncie and Portland traction line from this city to Celina, O., via Ft. Recovery, is being considered.

Cedar Rapids, Ia.—Citizens will vote on proposition to allow Interurban Co. to construct tracks on 4th and 5th aves. J. A. Reed, attorney for company, is interested.

Independence, Kan.—D. H. Higgins will apply for franchise for city system at once.

Liberal, Kan.—Citizens have voted bonds in support of building Garden City, Gulf and Northern Railway.

Topeka, Kan.—Topeka Street Railway Co. will construct extension.

Louisville, Ky.—Louisville Railway Co. is considering building of extension from Fern Creek to Mt. Washington, distance eight miles.

Lansing, Mich.—Lansing & Northeastern Electric Railway has been incorporated to build 30-mile electric railway from Lansing to Owosso, with two proposed extensions; capital stock \$500,000.—G. G. Moore, K. Lathrop and S. W. Ladd, Detroit, and T. W. Atwood, Caro, incorporators.

Paw Paw, Mich.—Council has granted William Plumb and H. H. Tucker franchise to build an electric railway.

Fremont, Neb.—Mayor Burrell has signed ordinance giving Nebraska Transportation Co. franchise to construct trolley line into Fremont.

New Rochelle, N. Y.—Westchester Electric Railway Co. is planning to double-track trolley line on North ave.

New York, N. Y.—Public Service Commission has authorized issuance of \$151,000 improvement bonds by Coney Island and Brooklyn Railroad Co.

Seneca Falls, N. Y.—Geneva and Auburn Trolley Co. has asked for new franchise.

Rutherfordton, N. C.—Isothermal Traction Co. has been chartered to construct electric railway from Rutherfordton to Gastonia, distance 40 miles; capital stock \$100,000.—K. S. Kinch, J. F. Fleck and W. A. Harrell, incorporators.

Bartlesville, Okla.—Dewey and Bartlesville are to be connected by interurban electric line with Siggins line from Independence to Coffeyville and line soon to be built from Coffeyville to Nowata.

Muskogee, Okla.—Superintendent Long of Street Car Company has asked for permission to extend line over 61 streets.

Muskogee, Okla.—Eastern Oklahoma Traction Co. has been granted charter to construct line from Muskogee to Tulsa, thence to Wagoner, Sapulpa, Webers Falls, Checotah, Okmulgee and Oklahoma City; total distance 251 miles; same people have incorporated Railway Construction Co., capital stock \$50,000, to have active charge of building of proposed interurban.—H. B. Spaulding, R. N. Eggleston, J. W. Maddox, L. R. Kershaw, W. L. Tull, J. B. Furry and Roy Bowman, all of Muskogee, incorporators.

Tulsa, Okla.—Tulsa Street Railway Co. is considering double-tracking of line for some 13 or 14 blocks on South Main st.

Wilburton, Okla.—Construction of street railway is being considered.

Stroudsburg, Pa.—The Stroudsburg & Water Gap Street Railway Co. has been granted perpetual franchise by Council to build two-mile extension of its electric railway along highway extending through the

Delaware Water Gap.—A. A. Holbrook, Wilkes-Barre, Secretary and General Manager.

Austin, Tex.—Austin Electric Street Railway Co. is planning extensions.

El Paso, Tex.—El Paso Port Hancock Railway Co. has been granted extension of franchise for one year; five miles of road will be constructed within six months.

Fort Worth, Tex.—Board of Trade is considering proposition for construction of trolley line from this city to Denton.

Greenville, Tex.—Construction of interurban line between this city and Wolfe City is being considered.

Stiles, Tex.—Business Club has decided to investigate proposition to co-operate with towns of Big Springs, Gordon City and Ozona in building of a railroad from Big Spring south through these towns.

Brigham City, Utah.—Ogden and North-western Railroad Co. has asked County Commissioners for franchise.

Salt Lake City, Utah.—County Commissioners are considering L. Young's petition for franchise to run electric cars to Big Cottonwood.

Sandy, Utah.—Citizens are urging Utah Light and Railway Co. to construct line to this place from Social Center.—H. M. Pearson, Chairman Special Committee.

Norfolk, Va.—City has granted franchise to Colonial Place Corporation for a street railway extension to be operated by the Norfolk & Atlantic Terminal Co.—E. C. Hathaway, General Manager.

Renton, Wash.—Council has granted Valley Railway & Power Co. franchise to operate railroad to Kent.

Snohomish, Wash.—Council has granted 50-year franchise to Seattle-Snohomish Electric Railway Co. to operate street railway in city.

La Crosse, Wis.—La Crosse City Railway Co. will expend \$30,000 in double tracking some sections of its lines.

Milwaukee, Wis.—Milwaukee Electric Ry. & Light Co. will issue \$1,000,000 additional refunding and extension mortgage for extensions and improvements.

Milwaukee, Wis.—Milwaukee Light, Heat and Traction Co. has asked for permission to build line along Grand avenue blvd.

Portage, Wis.—Council has granted a franchise to the Chicago & Wisconsin Railroad Co. to pass through the city and to install local street car line.

## CONTRACTS AWARDED

Hutchinson, Kan.—Interurban for Kinsley Air Line Co. to Air Line Construction Co., Theo. Lutguering, Wichita, president.

## BRIDGES

Bay Minette, Ala.—Baldwin County Commissioners have authorized advertisement of bids for steel bridge across Styx River on Gateswood-Daphne rd.—Judge J. H. Smith, Chairman.

Pomona, Cal.—Garey ave. crossing will soon be spanned by viaduct or elevated railway over Southern Pacific and Salt Lake tracks.

San Francisco, Cal.—Work on Mission viaduct will begin as soon as Board of Works can complete specifications and advertise for bids.

Middletown, Conn.—New York, New Haven & Hartford Railroad will build steel and concrete bridge over Connecticut River between Portland and Middletown; cost \$360,000.

Pensacola, Fla.—Chamber of Commerce, President Thornton, is urging erection of \$25,000 bridge across Perdido Bay.

Sanford, Fla.—N. W. Harris & Co., New York, have purchased \$120,000 bridge and street improvement bonds.

Pittsfield, Ill.—Construction of steel bridge across McCraney Creek is being considered.

Greensburg, Ind.—Decatur County Board of Commissioners is considering constructing several steel and concrete bridges.—B. Craig, K. of P. Bldg., County Engineer.

Kendallville, Ind.—Council is considering construction of bridge over Delebele Creek on S. Main st.

Mt. Vernon, Ind.—County Commissioners will let 15 bridge contracts during present term.

Portland, Ind.—Commissioners of Jay and Blackford counties have adopted plans and specifications for 100-ft. steel bridge across the Salamonie River.

Shelbyville, Ind.—Shelby County Board of Commissioners is considering constructing forge steel bridge over Blue River.—S. H. Harris, County Engineer.

Topeka, Kan.—City has rejected bids for extensions of Melan Bridge.

Kinder, La.—Peavy-Burns Lumber Co., Shreveport, will construct bridge across Calcasieu River; cost \$30,000.—Frank Shutt, Lake Charles, Engineer in Charge.

Bishopville, Md.—Residents are urging

construction of diaw in bridge crossing Martin's Creek; U. S. Engineer Richmond is considering matter.

Dracut, Mass.—Town has voted \$3,000 for bridges and highways.

Essex, Mass.—Town has voted \$1,000 for bridges and roadways.

Trenton, Mich.—Citizens will again vote on \$175,000 bonds for erection of bridge from this city to Grosse Isle.

Clarksdale, Miss.—Coahoma County Commissioners will issue \$75,000 bridge and road bonds.

New Brunswick, N. J.—Board of Freeholders is considering erection of concrete bridge at Plainsboro Mills; cost about \$1,500.

Paterson, N. J.—Bergen County Board of Freeholders has voted to appropriate \$5,000 toward expense of borings for the proposed Hudson River bridge.

Rancocas, N. J.—Burlington County Freeholders will erect bridge at Rancocas Park.

Binghamton, N. Y.—Town Boards of Kirkwood, Conklin, Fenton and Chenango, together with County Highway Officials, will formulate plans for reconstruction of bridges over Chenango and Susquehanna rivers.

Elizabeth City, N. C.—Camden Ferry Co. will construct iron bridges across Pasquotank River; plans and specifications invited; cost \$10,000.

New York, N. Y.—Controller Prendergast will receive bids March 21 for \$2,000,000 bridge bonds.

Circleville, O.—Pickaway County Board of Commissioners will construct three steel and three concrete bridges.

Dayton, O.—Council is considering construction of bridge at Edgewater and Sunrise aves.

Delphos, O.—Plans are being prepared by Surveyor J. F. Cupp, Lima, for steel lift and bascule bridge over canal.

Hamilton, O.—Butler County Board of Commissioners is considering constructing steel hoist bridges over canal at Grand blvd., Eaton and E. High sts.—J. A. Dillon, County Engineer.

Huron, O.—Erie County Board of Commissioners has approved plans for \$150,000 lift bridge over Huron River.—Aug. C. Schultz, Sandusky, County Engineer.

Mt. Vernon, O.—Knox County Board of Commissioners has directed County Surveyor to prepare plans for rebuilding two bridges.

Utica, O.—Plans have been prepared by F. S. Cully, Newark, for proposed Utica bridge.

Ardmore, Okla.—Red River Valley & Texas Railroad Co. will at once open bids for construction of eight steel bridges.—F. L. Mercer, President.

Muskogee, Okla.—County Commissioners will construct four more bridges.

Bethlehem, Pa.—Chief Burgess W. E. Martin has recommended continued efforts to secure additional and improved bridge facilities.

Hummelstown, Pa.—County Commissioners are considering replacing of bridge destroyed by floods.

New Hope, Pa.—Commissioners of Bucks County have decided to build bridge over Holcomb Mill Dam.

Pittsburg, Pa.—Construction of three permanent wagon bridges connecting six wards is being urged.

Reading, Pa.—Reinforced concrete arch bridge will be erected by Berks County Commissioners in Albany Township, near Kempton.

Beaufort, S. C.—Cothran & Cothran, Greenville, have been selected as engineers to construct proposed \$75,000 steel bridge across Beaufort River.

Cleburne, Tex.—County will soon erect bridge on Country Club rd.

El Paso, Tex.—F. M. Blsbee, Chief Engineer Western Division of Santa Fe, has estimated cost of proposed free bridge from this city to Juarez at \$175,140.

Houston, Tex.—Consulting Engineer F. L. Dormant has submitted two sets of plans to Council for proposed bridge to be constructed across ship channel on San Jacinto st.

Houston, Tex.—City is considering constructing two concrete arch bridges over White Oak Bayou and tributaries on Houston ave.—H. B. Rice, Mayor.

Marfa, Tex.—County Commissioners will build bridge between this city and Fort Davis.

San Antonio, Tex.—Council has adopted ordinance providing for construction of bridge across San Antonio River; cost about \$10,000.

St. Albans, Vt.—Town of Berkshire has voted to erect iron bridge at East Franklin.

Spokane, Wash.—Espanola Township has voted \$1,300 for bridges and roads.

St. Croix Falls, Wis.—L. P. Wolfe will prepare plans for a bridge between Taylors Falls and St. Croix Falls; cost about \$14,000.

**Quesnel, B. C., Can.**—Quesnel Conservative Association has asked Provincial Government to construct bridge across Fraser River.

### CONTRACTS AWARDED

**Salinas, Cal.**—Repairing Carmel bridges and construction of small bridge, to Clarence W. Swain, Ione, \$5,293.

**Jacksonville, Fla.**—Repair of Trout Creek bridge, to J. E. Iwanoski.

**Sanford, Fla.**—Five steel and concrete bridges, to George H. Croft, Dublin, Ga.

**Urbana, Ill.**—Constructing bridge at Newcomford, to Pan-American Bridge Co., of New Castle, Ind., \$5,995.

**Vincennes, Ind.**—Helderman Bridge, to Vincennes Bridge Co., \$1,449.50.

**Larned, Kan.**—Bridge across Pawnee River, to Topeka Bridge & Iron Co., \$5,200.

**Wamego, Kan.**—Bridge over Blue Channel, to Midland Bridge Co., Kansas City, \$12,040.

**Buffalo, N. Y.**—Faving, masonry, etc., for construction of viaduct and approaches in Bailey ave., to Henry P. Burgard Co., 275 Lathrop st., Buffalo, \$78,217.—E. B. Guthrie, Chief Engineer.

**Caledonia, N. Y.**—Bridge over Genesee River, to United Construction Co., Albany, \$6,946.

**Toledo, O.**—Cherry st. bridge, to C. H. Fath & Co., Cleveland, \$813,787.50.

**Reading, Pa.**—Constructing concrete arch in Wyomissing Borough, bids opened March 3, to Rundel & Paxson, city, \$3,932.

**Bristol, Va.**—Concrete bridge on Front st., to Virginia Bridge and Iron Co., Roanoke, \$1,200.

**Everett, Wash.**—Repairing Ebey Slough bridge, to American Bridge Co., \$1,795.

### BIDS RECEIVED

**Huntington, Ind.**—Bridges: Walker Bros., arches in secs. 30 and 31, Clear Creek twp., \$519; for moving bridge in sec. 1, Jackson twp., \$289; abutments, \$4.95 per cu. yd.

**M. E. Smith, arch in Warren twp., \$5.27 per cu. yd.; arch secs. 30 and 31, Clear Creek twp., flat top, \$8.87 per cu. yd.; removing old bridge, \$245.**

**Fred Shutt, concrete arch, secs. 15 and 16, Warren twp., \$5.30 per cu. yd.; concrete arch in Warren corporation, \$5.10 per cu. yd.; concrete arch in Jefferson twp., \$4.70 per cu. yd.**

**S. D. Iler, arch in Warren twp., \$5.37 per cu. yd.; arch in secs. 20 and 29, Clear Creek twp., \$5.47 per cu. yd.; abutments, sec. 25, Warren twp., \$4.87; flat top bridge, secs. 30 and 31, Clear Creek twp., \$5.60 per cu. yd.; abutments, sec. 1, Jackson twp., \$4.97 per cu. yd.**

**Levi Kivett, arch in sec. 2, Dallas twp., and sec. 35, Warren twp., \$5.28 per cu. yd.; arch, secs. 15 and 16, Warren twp., \$5.62 per cu. yd.; arch, secs. 20 and 29, Clear Creek twp., \$5.61; abutments, secs. 30 and 25, Warren twp., \$4.75 per cu. yd.**

**L. A. Shutt, flat top, secs. 30 and 31, Clear Creek twp., \$7.49 per cu. yd.; abutments, secs. 11 and 14, Dallas twp., \$5 per cu. yd.; concrete arch, secs. 16 and 17, Jefferson twp., \$5.85 per cu. yd.; abutments, sec. 25, Warren twp., and 30 in Clear Creek twp., \$5.25 per cu. yd.; arch in sec. 2, Dallas twp., and sec. 35, Warren twp., \$5.65 per cu. yd.; abutments in sec. 1, Jackson twp., \$5.25 per cu. yd.; concrete arch, secs. 20 and 29, Clear Creek twp., \$5.65 per cu. yd.; abutments in sec. 1, and 16, Warren twp., \$6 per cu. yd.**

**Walker Bros., flat top, secs. 30 and 31, Clear Creek twp., \$510; abutments, sec. Jackson twp., \$4.95 per cu. yd.**

**M. F. Smith, moving bridge in sec. 1, Jackson twp., \$245; concrete arch, secs. 15 and 16, Warren twp., \$5.27 per cu. yd.**

**Fred Shutt, arch in Jefferson twp., secs. 17 and 18, \$5.25 per cu. yd.**

**S. D. Iler, arch, secs. 20 and 29, Clear Creek twp., \$5.47.**

**Levi Kivett, abutments, sec. 25, Warren twp., sec. 30, in Clear Creek twp., \$4.75 per cu. yd.; arch in sec. 2, Dallas twp., and sec. 35, Warren twp., \$5.28 per cu. yd.**

**New York, N. Y.**—Furnishing material and constructing footbridge at falls in Bronx Park; Jos. di Benedetto, 423 E. 115th st., \$7,565; Henry E. Fox, 81 E. 125th st., \$8,880; Fox-Hennessy Co., 1323 Bway., \$7,465; Chas. E. Fraser & Co., 1323 Bway., \$8,479; Goodwin Construction Co., 30 Church st., \$8,970; Hennebique Constr. Co., 1170 Bway., \$8,900; Kelly & Kelley, Inc., 45 E. 42d st., \$8,474; Lafferty & Weir, 723 Lexington ave., \$5,848; Leahy Contr. & Constr. Co., 1446 Prospect ave., \$11,000; John MacArthur, 4576 Stuart ave., Richmond Hill, L. I., \$16,894; J. B. Malatesa, 3769 Jerome ave., \$9,900; E. DeV. Tompkins, 81 E. 125th st., \$11,926; Louis Wechster, 1133 Bway., \$11,800; the Wormser-Goodman Constr. Co., 2 Rector st., \$9,475.

### MISCELLANEOUS

**Montgomery, Ala.**—Mayor Gaston Gunter urges establishment of playgrounds for school children.

**Berkeley, Cal.**—Proposition submitted by set of Oakland capitalists for construction of incinerator is being considered by Mayor Hodghead and Council. J. M. Stowe, Herbert Lang, Robert M. Fitzgerald, Geo. Morgan, W. C. Harris and L. Dalzell are interested.

**Los Angeles, Cal.**—Council has decided to establish public park in Garvanza.

**Los Angeles, Cal.**—Citizens will vote April 19 on \$3,000,000 bonds for harbor improvements.

**Long Beach, Cal.**—Citizens will vote April 19 on bonds for building concrete piers at Devil's Gate and improvements to pier at foot of Pine ave.; cost \$125,000.

**Colorado Springs, Col.**—City is considering purchase of canyon for establishment of public park.

**Bethel, Conn.**—Village is interested in establishment of public library, made possible by gift of \$2,000 by will of late Maria Farlow.

**New Haven, Conn.**—Need of street signs in suburbs is being urged.

**Wilmington, Del.**—New Castle County Levy Court will purchase two automobiles for summer inspection tours of county roads and bridges.

**Atlanta, Ga.**—Park Commissioners will ask Council for \$4,370 appropriation for erection of public comfort building in Piedmont Park.—Robert Maddox, Mayor.

**Joliet, Ill.**—Citizens will vote April 19 on \$75,000 bonds for building city hall and purchasing water works equipment.

**Evansville, Ind.**—Bids will be received April 5 by Board of Works for sprinkling 25 streets, and on March 16 for sweeping 88 streets.

**Shelbyville, Ind.**—Council has appointed commission to arrange plans for laying out city park in southwestern part of city.—W. H. Isley, Morrison Blk., City Engineer.

**Kansas City, Kan.**—City will readvertise for bids for \$200,000 city hall bonds.

**Kansas City, Kan.**—Board of Park Commissioners is considering plans for erection of shelter house in Shawnee Park.

**Kansas City, Kan.**—Board of Park Commissioners is considering laying out public park at 8th st. and Quindaro blvd.—L. H. Ellis, Library Bldg., Park Engineer; A. H. Holder, Chairman.

**Baltimore, Md.**—Plans for gate house to be built in connection with Forest Park reservoir have been completed and bids will be received within next two weeks; cost about \$10,000; work will be under direction of Water Engineer Alfred M. Quick.

**Baltimore, Md.**—Northwest Business Men's Association is urging turning of property on Liberty lane into public park.

**Manchester, Mass.**—Town has voted \$1,000 for auto for Water Department.

**Melrose, Mass.**—Board of Aldermen has passed over Mayor Moore's veto order appropriating \$5,400 for installation of police signal system.

**Belle Plaine, Minn.**—Village will vote on \$2,500 bonds for river improvement work.

**Beatrice, Neb.**—Plans for remodeling city hall have been submitted by Architect R. W. Grant; cost \$2,500; bids will be advertised.

**Grand Island, Neb.**—City is considering purchase of park.

**Valley City, N. D.**—Haxby & Gillespie, Fargo, have completed plans for erection of \$20,000 city hall.

**Camden, N. J.**—Council has authorized issuance of \$104,000 bonds for river and creek improvements; bids will be opened March 21 by Finance Committee.

**Irvington, N. J.**—Street Committee will advertise for bids for oil sprinkling wagon and for furnishing oil in car lots.

**Newburgh, N. Y.**—Mayor Benj. McClung has recommended establishment of patrol and police signal system.

**New York, N. Y.**—Board of Aldermen has appropriated \$34,225 for establishment of adequate ambulance service, and \$8,000 for special automobile vehicle for transportation of persons believed to be insane.

**New York, N. Y.**—Bids will be received March 21 by Controller Prendergast for following bonds: \$1,000,000 for docks and ferries, \$1,000,000 for hospitals, \$20,000,000 for lands, buildings and equipment, \$500,000 for libraries, \$1,000,000 for parks, and \$23,500,000 for miscellaneous expenditures.

**Port Chester, N. Y.**—Rye Park Commission has instructed architect to prepare plans for a large restaurant building, to be constructed in park near the Rye Beach side; promenades were also ordered built in front of administration building.

**Hamilton, O.**—Citizens will vote April 16 on \$400,000 bonds for building park system.

**Durant, Okla.**—Citizens will vote on \$10,000 bonds to purchase and improve park.

**Oklahoma City, Okla.**—City is considering

election on \$200,000 bonds to gain control of river front passing through Delmar Garden by purchase of 50 acres, \$10,000 bonds for police patrol box system and \$15,000 bonds for purchase of additional street cleaning equipment.

**Tulsa, Okla.**—Citizens have defeated proposed \$100,000 city hall issue.

**Clifton Heights, Pa.**—Burgess M. S. Keay has recommended that borough take up collection of ashes and tin cans.

**McKeesport, Pa.**—Health Department has recommended that Council consider municipal collection of garbage; department has asked for \$6,000 for building chamber at garbage furnace.

**Baird, Tex.**—Council is planning to erect combined city hall and theater.

**Fort Worth, Tex.**—Park Commissioners Maddox, Walker, Grant and Rogers have examined all of city parks with view of making improvements.

**Mt. Pleasant, Utah.**—Citizens will form company to erect opera house and gymnasium on Main st.

**Salt Lake City, Utah.**—Public Grounds Committee will recommend that pump be installed at Jordan River and First South st. to pump water from streets.

**Salt Lake City, Utah.**—Council will consider establishment of public market house.

**Brattleboro, Vt.**—Town of Townshend has voted to erect \$5,500 town hall.

**Portsmouth, Va.**—Cemetery Commission will recommend erection of public comfort station at Oak Grove Cemetery.

**Richmond, Va.**—Council is considering \$6,500 appropriation for remodeling city hall.—Charles E. Bolling, City Engineer.

**Tacoma, Wash.**—Fire and Water Committee is considering resolution for purchase of 30-h.p. automobile roadster for Commissioner of Public Works.

**Wheeling, W. Va.**—Board of Education has selected plans by Charles W. Bates, city, for \$25,000 library.—W. J. Steen, Chairman Building and Grounds Commission.

**Oshkosh, Wis.**—Oshkosh Playgrounds Association will make united effort toward establishment of free public playgrounds for all children of city.

### CONTRACTS AWARDED

**Pasadena, Cal.**—Hauling garbage, to H. Humphries, 42½c. per hour; two other bidders.

**New Haven, Conn.**—Supplies: Cement, to Warner Miller Co., \$245; sewer castings, to Sessions Foundry Co., \$0.162 per lb.; granite catch basins, to Tucker Bros., \$31 per 25 sets; Georgia pine, to New Haven, Sawmill, \$28.75; blue stone, to Warner Miller Co., \$1.378, and vit. sewer pipe, to Howard Co., \$272.25.

**Wilmington, Del.**—Building for Water Department, to Haddock & Co., \$17,967.

**Haverhill, Mass.**—Supplies: Lawrence Gas Co., Lawrence, tar per barrel, \$2.60, with 60c. allowance for return of barrel. D. D. Chase Lumber Co., Portland cement, \$1.80 per barrel in cotton sacks, with allowance of 7½c. per bag; in paper bags, \$1.55 per barrel. Samuel Cabot, Inc., pitch, \$14 per ton, f. o. b. Haverhill; Taylor-Goodwin Co., Portland Cement, Atlas or Vul., in paper bags, \$1.69; in cloth, \$1.99; allowance of 7½c. each for return of cloth bags; spruce lumber, 9 in. or less in width, \$24.75 per thousand. Barrett Mfg. Co., straight run domestic coal tar pitch, \$16.40 per ton; coal tar, per barrel, \$3.15; 45c. allowance for return of barrels; tar, Rok sidewalk composition, \$4.40 per barrel f. o. b. Haverhill. Warren Chemical Mfg. Co., tar, \$3.75 per bbl., with allowance of 65c. per barrel; pitch, \$16.40 per ton. J. H. Horne & Sons Co., sewer frames, 3c. per pound, f. o. b. Haverhill.

**H. L. Taylor Co., Edison and Portland cement, \$1.71 per bbl. in paper bags and \$1.96 per barrel in cotton sacks, 7½c. allowance for return of each sack. Hannigan Catch Basin and Gutter Snow Plow Co., castings for sewer, \$2.35 per 100 lbs. Merrimack Iron Foundry, Lawrence, sewer castings, \$2.05 per 100 lbs. in 500-lb. lots; \$2.55 per 100 lbs. in small lots.**

**Louisville, Ky.**—Two public comfort stations, 11th st., to Frey Planing Mill Co., \$3,678; 18th st., to A. Markham & Co., \$3,762.

**Omaha, Neb.**—Supplies, City Engineer Craig's department: C. E. Fanning and Foy & McLaughlin, slag; C. B. Havens & Co., gravel; L. B. McCoun Co., Joplin flint; P. J. Creedon & Sons, Platte River sand; C. N. Deltz, Portland cement; E. B. Carrigan Co., Weir City nut coal; Bradford-Kennedy Co., lumber, piling and posts; Wearne Bros. Foundry, cast-iron; Smith Bros. Brick Co., common sewer brick; C. W. Hull Co., pavers' sewer brick; Commercial Land Co., stone.

**Orange, N. J.**—Erection of almshouse. Thos. Altridge, lowest bidder, \$22,652; total of all bids, \$24,390.



## TOO LATE FOR CLASSIFICATION

## STREET IMPROVEMENTS

**New Britain, Conn.**—Paving of Main st. is being considered.

**Wilmington, Del.**—Chief Engineer Taylor of Street and Sewer Department has been instructed by George W. Sparks, President of Board of Street and Sewer Directors, to prepare plan for regrading of some of hilly streets of city.

**Sanford, Fla.**—N. W. Harris & Co., New York, has purchased \$120,000 street, bridge and other improvement bonds.

**Evanston, Ill.**—Board of Local Improvement has passed ordinance providing for paving of Dartmouth Pl. with macadam; cost \$3,555.—J. H. Moore, Commissioner Public Works.

**Freeport, Ill.**—Contracts will be let about April 15 for paving work as follows: Union st. with brick, about 9,000 sq. yds., cost \$16,969; Adam st. with brick, about 21,000 sq. yds., \$38,990, and Whistler st. with macadam, 7,220 sq. yds., \$8,190.—John A. R. Daniel, City Engineer.

**Moline, Ill.**—Board of Local Improvements has adopted resolution providing for paving of 55th st.; cost \$68,689.

**Moline, Ill.**—Council is considering improvement of 4th ave.

**Orangeville, Ill.**—Town will vote on tax levy for beginning hard road building.

**Pekin, Ill.**—Council has passed ordinances for improvement of Park and Buena Vista ave.

**Quincy, Ill.**—Resurfacing of E. Vermont st. with vitrified brick is being urged.

**Fort Wayne, Ind.**—North Clinton st. will be paved with brick between Superior and 4th sts. and macadamized north to city limits.

**Vincennes, Ind.**—Board of Public Works has ordered improvement of three streets.

**Abilene, Kan.**—Plans have been prepared by Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., for 140,000 yds. of paving.

**Independence, Kan.**—City Commissioners are considering paving of 11 streets.

**Maysville, Ky.**—Paving Committee has decided to construct concrete sidewalks on seven streets.

**New Orleans, La.**—City is considering paving of De Sota st. with granitoid, St. Anthony st. with asphalt and Carondelet st.

**Hagerstown, Md.**—Plans for the abolition of grade crossings have been submitted to Town Council; cost about \$200,000.

**Chicopee, Mass.**—Citizens are urging construction of State highway between the Falls and Holyoke.

**Everett, Mass.**—City has rejected all bids for improvement of Grand ave.; new bids will be asked; plans will be prepared for grading Federal st.

**West Springfield, Mass.**—City is considering paving of West Springfield-Chicopee Bridge with Creosote block; cost \$7,000.

**Eveleth, Minn.**—Bids will be received Apr. 5, 8 P. M., for laying about 9700 sq. yds. of paving.—D. P. McIntyre, City Clerk.

**Eveleth, Minn.**—Council has decided to ask for bids for paving Grant ave.

**St. Paul, Minn.**—Bids will be received Mar. 21, 10 A. M., for grading and macadamizing three roads.—E. G. Krahmer, County Auditor.

**Gulfport, Miss.**—Council will adopt ordinance ordering construction of sidewalks on all principal streets.

**Claremont, N. H.**—Town has voted \$10,000 for highways.

**Gloucester, N. J.**—City is about to spend \$50,000 on street improvements on Broadway, Essex, Burlington and King sts.

**Hackensack, N. J.**—Bergen County Board of Chosen Freeholders has decided to build about 15 miles of county roads during coming season.

**Jersey City, N. J.**—Bids will be received Mar. 21, 2 P. M., for improving three streets.—G. T. Bouton, Clerk, Board of Street and Water Commissioners.

**Salem, N. J.**—State Road Commissioner Gilkyson has expressed desire for Salem County Board of Freeholders to improve road from Mannington Hill to Woodstown.

**Binghamton, N. Y.**—Highway Committee of Board of Supervisors is considering plans for improvement of roads; cost \$60,000.

**Syracuse, N. Y.**—City Engineer Henry C. Allen has prepared estimates on a number of local improvements: Paving Park ave. from Liberty to Sackett st. with sandstone block, creosoted wood block or Hassam pavement with granite top and stone curb, \$11,860; with Portland cement curb and gutter, \$11,140; asphalt sheet, vit. brick or block with stone curb, \$8,520; with Portland cement curb and gutter, \$8,000; macadam, with vit. brick or block in railroad strip, stone curb, \$6,170; with Portland cement curb and gutter, \$5,830. Paving Park ave. from Sackett st. to Lakeview ave., sandstone block, creosoted wood block or Hassam pavement, with granite top, stone curb, \$15,700; with Portland cement curb

and gutter, \$14,730; asphalt sheet, vit. brick curb and gutter, \$10,370; macadam, with vit. brick or block in railroad strip, stone curb, \$8,100; with Portland cement curb and gutter, \$7,650. Paving Park ave. from West Genesee to West line of Lakeview ave. and Lakeview ave. from Park ave. to south line of Apple st. with sandstone block, creosoted wood block or Hassam pavement, stone curb, \$11,800; with Portland cement curb and gutter, \$11,100; asphalt sheet and vit. brick or block, stone curb, \$8,430; with Portland cement curb and gutter, \$7,950; macadam, with vit. brick or block in railroad strip, stone curb, \$5,650; with Portland cement curb and gutter, \$5,330. Grading Rider ave. from Bellevue ave. to Stolp ave., \$2,200. Grading Reed ave. from Bellevue ave. to the city line, \$5,200. 12-in. pipe sewer in Milton ave. from Whittier ave. to Coleridge ave., \$1,001.

**Cleveland Heights, O.**—Bids will be received Apr. 5, noon, for oiling streets.—F. A. Pease Engineering Co., 931 Williamson Bldg., Cleveland, Engineers. H. N. Canfield, 309 Fairmount Bldg., Cleveland, Village Clerk.

**Clifton Heights, Pa.**—Burgess N. S. Keay has recommended widening of Bridge st.

**Philadelphia, Pa.**—Chestnut st. business men are urging improving that thoroughfare with wood block instead of asphalt.

**Portsmouth, Va.**—Street Committee is investigating paving materials and method of laying same.

**Roanoke, Va.**—Bids will be received Mar. 18, noon, for construction of granolithic sidewalks.—F. L. Gibboney, City Engineer.

**St. Albans, Vt.**—City will expend about \$28,000 on streets, sidewalks, water and sewers.—S. C. Greene, Mayor.

**Milwaukee, Wis.**—City will extend Wells st. through new sections of county farm.

**Aguascalientes, Mex.**—City will pave some of principal streets and make other improvements; \$5,000,000, Mexican currency, available.—Vasquez del Mercedes, Governor.

## CONTRACTS AWARDED

**Fowler, Ind.**—Fifteen new roads, valued approximately at \$150,000; successful bidders: Ed Johnson, \$11,698; W. W. Evans, \$6,190; Ed Johnson, \$8,638; Jones Construction Co., of Muncie, \$9,500; Maloney & Allen, \$4,409; Homer Teeter, \$8,100; W. F. Smith & Co., \$8,290; Jones Construction Co., \$3,500; Kennedy & Parker, \$9,000; Jones Construction Co., \$8,226; Glynn & Van Natta, two roads, \$8,932 and \$7,000; J. H. Bennett, \$2,974; W. W. Evans, \$2,785; J. P. Farrell, \$7,878; Glynn & Van Natta, \$25,367.

**Marion, Ind.**—Mill st., Fairmount, to J. A. Hardin & Co., Madison County, \$12,150; C. L. Smith, stone road in Liberty Twp. to Jesse Brookshire, \$2,798.

**Muncie, Ind.**—Brick roadway in Kilgore ave., to Wm. Birch, \$22,900.

**Vincennes, Ind.**—N. O. Roach, gravel road extension, to Hugh O'Donnell, \$1,260; Bert E. Clark, gravel road extension, to C. F. Wolf, \$805; James A. Winemiller, gravel road extension, to Hugh O'Donnell, \$870; Simon Winkler, gravel road extension, to C. F. Wolf, \$700.

**Windfall, Ind.**—John W. Reese road, Jefferson twp., to Booher & Davis, Windfall, \$1,259; John Harlow road, Prairie twp., to Sanford Browning, Windfall, \$1,035; Andrew McNew road, Liberty twp., to Henderson & Cage, Tipton, \$3,147; Ed Becker road, Liberty twp., to Henderson & Cage, \$923; the M. P. Huser road, Jefferson twp., to Sanford Browning, \$1,359; Jacob Barrow road, Windfall, to Booher & Davis, \$2,334.

**Waterloo, Ia.**—Paving Arizona st., to Bryant-Ford-McLaughlin Asphalt Paving Co., Commercial Bank Bldg., \$1.90 per sq. yd. for asphalt and 60c. per lin. ft. for combined curb and gutter.

**Jersey City, N. J.**—Improvement of Jackson ave., Van Keuren & Sons, 87½ per cent. of standard; Hoboken ave sewer, Philip Tumulty, \$4.99-100 per cent. of standard; repairs to asphalt streets, Farber Asphalt Co., 87 per cent. of standard.

**Philadelphia, Pa.**—Repairs to non-traction streets, providing for outlay of \$100,000: Cunningham Paving Co., repaving streets, exclusive of asphalt; Barber Asphalt Co., repairs to asphalt streets; R. P. Bernis, for furnishing, delivering, spreading and rolling broken stone and for repairing granite block and vitrified brick streets.

**Denison, Tex.**—Sand for Burnett ave. paving, to Munson Bros., 94c. per cu. yd., f. o. b. Riverdale.

**Lynchburg, Va.**—Portions of three streets to J. L. Ford & Co., about \$33,300.

**Petersburg, Va.**—Market st. roadway, to Perkins & Finn, \$2.47 per sq. yd.

**Green Bay, Wis.**—Paving portions of six streets with asphalt, to J. F. Hill Co., Chicago; 15 other streets with tar, macadam and concrete materials to McGrath Construction Co.

## SEWERAGE

**Wallace, Ida.**—Construction of proposed \$25,000 sewer system in Kellogg has been postponed.

**Evanston, Ill.**—Council has passed ordinance for sewer system in the Germania Addition, cost \$17,262.—J. H. Moore, Commissioner of Public Works.

**Laporte, Ind.**—Mayor Darrow is urging construction sewer system; plans by Prof. Sackett, of Lafayette; cost, about \$300,000.

**Des Moines, Ia.**—Bids will be received Mar. 21, 10 A. M., for construction of sewers in two streets.—G. F. Poorman, City Clerk.

**Burlington, Kan.**—Plans are being prepared by Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., for sanitary sewers.

**Ft. Strong, Mass.**—Bids will be received Apr. 4 for constructing drain.—Capt. A. M. Miller, Constructing Q. M.

**Lincoln, Neb.**—Bids will be received Mar. 19, 1 P. M., for construction of sewers in two districts.—R. C. Ozman, City Clerk.

**Omaha, Neb.**—Estabrook & Co., Boston, have purchased \$100,000 sewer bonds.

**Syracuse, N. Y.**—Contract will be let Aug. 1 for construction of proposed trunk sewer; cost \$62,000.—Henry C. Allen, City Engineer.

**St. Bernard, O.**—City has awarded \$8,000 street bonds to Seasongood & Mayer.

**Tulsa, Okla.**—Citizens have voted \$3,500 bonds for sewer extensions.

**St. Albans, Vt.**—City will expend \$28,000 on sewers, water and street improvements.—S. C. Greene, Mayor.

**Elm Grove, W. Va.**—Patterson Council will ask for bids for laying 1,575 ft. 12-in. sewer pipe.

**Tacoma, Wash.**—Council is considering \$100,000 bond issue for construction of additional storm sewers.

**Racine, Wis.**—Bids will be received Mar. 19, 10 A. M., for construction of sewer in La Salle st.—P. H. Connolly, Chairman, Board of Public Works.

**Aguascalientes, Mex.**—City will install sewer system.—Vasquez del Mercedes, Governor.

## CONTRACTS AWARDED

**Alliance, Neb.**—Constructing sewer in five districts and for concrete septic tank, to Abel & Roberts, Lincoln, \$12,881.—F. W. Irish, City Clerk.

**Binghamton, N. Y.**—Sewers on Main and Moeller sts.: George Serfina, \$990.49; Clarence Rose, \$1,246.60; T. B. Bidwell, \$1,018.62; Tyne & Willey, \$1,088.46; John Schultz, \$1,166.16. Moller st., to T. B. Bidwell, \$2,326.86.

## WATER SUPPLY

**Lafayette, Ala.**—Citizens have voted \$40,000 bonds to install water works; work will begin at once.

**San Francisco, Cal.**—Bids will be received Mar. 28, 11 A. M., for constructing fire protection system for General Hospital at Presidio.—Major Geo. McK. Williamson, Constructing Q. M., U. S. A.

**Fort Collins, Col.**—City will receive bids April 14, noon, for construction of storage reservoir on Bingham Hill; capacity 5,000,000. See "Proposal".—R. S. Fedder, City Clerk.

**St. Augustine, Fla.**—Board of Trustees has decided to order 15 water meters.

**Joliet, Ill.**—Citizens will vote April 19 on \$25,000 bonds for replenishing wornout equipment at water works system.

**Colby, Kan.**—Citizens have voted \$55,000 bonds for water works and lighting; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Hutchinson, Kan.**—Five more deep wells are to be sunk at once at water works plant.

**Jamestown, Kan.**—City will construct water system; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Oakley, Kan.**—Citizens will vote on \$40,000 bonds for water works and lighting; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Rockport, Mass.**—Water Commission will expend \$4,000 for boilers.

**Duluth, Minn.**—Board of Water and Light Commissioners will lay 12-in. water pipe.

**Jefferson Barracks, Mo.**—Bids will be received Mar. 23, 11 A. M., for constructing water and sewer connections.—Capt. S. H. Ford, Q. M.

**White Plains, N. Y.**—Board of Water Commissioners is considering ways and means of securing additional source of water supply for city.—Lewis C. Platt, President.

**Tulsa, Okla.**—Citizens have voted \$100,000 water works improvement bonds.

**Hood River, Ore.**—Council has purchased tract of ground to be used as reservoir site

in new municipal water system, which is to be built this summer; City Engineer P. M. Morse has submitted general plan of system.

**McKeesport, Pa.**—Bids will be received Mar. 18, 4 P. M., for supplies for water department.—C. E. Soles, City Solicitor.

**St. Albans, Vt.**—City will expend \$28,000 on water, sewer and street improvements.—S. C. Greene, Mayor.

**Aguascalientes, Mex.**—City will install water system.—Vasquez del Mercedes, Governor.

#### CONTRACTS AWARDED

**Milford, Ia.**—Construction of water works, to Des Moines Bridge & Iron Co., Des Moines, \$9,356, exclusive of well, pump, house and machinery.—Chas. P. Chase, Clinton, Engineer.

**Vandalla, Mo.**—Constructing water works complete, to W. C. Jackson, Times Bldg., St. Louis, \$16,120; also sewer system complete, \$7,660.

**Tacoma, Wash.**—Laying water mains on three streets, to Bertelso & Sons, \$23,800.

#### LIGHTING AND POWER

**Fowler, Col.**—Council has granted 20-year franchise to G. E. Miles, of Denver, and G. E. Williams, Sheridan, Wyo., for electric lighting plant.

**Jacksonville, Fla.**—Geo. A. Miller, Ornamental Iron Works, Minneapolis, Minn., has prepared plans for ornamental lighting of downtown streets.

**Indianapolis, Ind.**—Council is considering \$25,000 appropriation for street lighting.

**Marengo, Ia.**—Marengo Electric Light & Power Co. has been incorporated, capital, \$15,000, to install electric light plant.

**Colby, Kan.**—Citizens have voted \$55,000 lighting and water works bonds; Burns & McDonnell, 821 Scarritt Bldg., Kansas City, Mo., Engineers.

**Salina, Kan.**—Council is considering proposed franchises asked by C. H. Randle, giving him right to establish gas and electric plant and natural gas piping system in city.

**Grand Rapids, Mich.**—Grand Rapids Gas Light Company plans to expend in improvements to plant and in extension of service between \$60,000 and \$75,000.

**Oswego, N. Y.**—City and Minetto-Meriden Co. are considering construction of dams on Oswego River.

**Syracuse, N. Y.**—Syracuse Lighting Co. is planning to expend \$350,000 on construction, extension and improvement work in both the gas and the electrical service, including five miles of new gas mains.

**Bellefontaine, O.**—Bids will be received Mar. 19, noon, for furnishing material for Main and Elm streets gas main improvements.—P. O. Batch, Clerk, Board of Public Service.

**New Berlin, O.**—Bids will be received Mar. 21, noon, for furnishing, erecting and maintaining 30 incandescent natural gas street lamps.—F. H. Garmon, Village Clerk.

**Lansdale, Pa.**—Montgomery Heat and Fuel Co. will pipe town for public and private lighting; Suburban Gas and Electric Service Co. has made application for franchise to furnish gas.

#### CONTRACTS AWARDED

**Greenfield, Ind.**—Light plant and sewer system for county infirmary, to Clark Lighting Co. and J. W. Fry.

**Altoona, Pa.**—Lighting streets for year, to Pennsylvania Central Light Co., \$52.50 per lamp.

#### FIRE EQUIPMENT

**Baltimore, Md.**—Plans are being made for fire engine house for Relay Fire Department on Arlington ave. and will be equipped with the latest appliances of modern fire quarters; work will be done under supervision of J. A. Burton.

**Portsmouth, Va.**—Fire Committee is considering purchase of Hart de'uge nozzle.

#### ELECTRIC RAILWAYS

**Galesburg, Ill.**—Peoria and Galesburg Traction Co. is considering construction of line to Maquon.

**McLeansboro, Ill.**—Illinois Oil & Coal Belt Ry. Co. has been incorporated to build a 190-mile electric railway to connect Terre Haute, Ind., Robinson, Oney, Fairfield, McLeansboro and Cairo; capital, \$1,000,000.—J. R. Campbell, president; Allen G. Russell, Chief Engineer, Chicago.

**Bryant, Ind.**—Town Board has granted franchise to Ft. Wayne & Springfield Ry., Decatur, to build electric railway.

**Council Bluffs, Ia.**—Omaha, Council Bluffs and Sioux City Railroad Co. has been incorporated to build line from this city to Sioux City; capital \$10,000.—H. M. Miller, President.

**Hutchinson, Kan.**—Miami Township has County Commissioners to call election on

bonds, \$2,000 per mile, for Wichita, Kinsley and Scott City Air Line.

**Oswego, Kan.**—Council has called election April 5 on a proposition to issue \$5,000 bonds to aid Oswego, Columbus & Cherryvale Interurban Railway Co.

**Defiance, O.**—Ohio Electric Co. is considering entering business section of city with its Lima-Defiance division in near future.

**Toledo, O.**—Toledo Rys. & Light Co. has decided to build and equip power house; cost about \$300,000.

**Enid, Okla.**—Charter for eastern end of Enid, Ochiltree and Western railroad has been issued. Incorporators are B. H. Tallmadge, L. W. Lyons, W. H. Greer, E. W. Waite and Hamlin Palmer.

**Muskogee, Okla.**—Muskogee Electric Street Railway Co. is planning four extensions to present lines in different parts of city.

**Tulsa, Okla.**—Citizens have voted \$25,000 bonds for viaducts and bridges.

#### BRIDGES

**Birmingham, Ala.**—Bids will be received Mar. 18, noon, for erecting one 80-foot steel span with 120-foot approach over Village Creek at Porter; one 70-foot span over Shades Creek; one 50-foot span over Black Creek; one 30-foot span over Shoal Creek, and one 40-foot span over Shoal Creek.—J. W. Gwin, Room 103 Court House, Engineer.

**Meeker, Col.**—Bids will be received Mar. 26, noon, for construction of steel bridge across White River.—C. W. Comstock, Denver, State Engineer.

**Bridgeport, Conn.**—Public hearing will be held in regard to paving Congress Street Bridge and approaches.

**Cairo, Ill.**—County Road Commissioners are considering construction of bridge over Cache River.

**Warsaw, Ind.**—Fifteen new bridges will be built to Kosciusko County this summer, an additional appropriation of \$18,582.26 having been asked of County Council for purpose and for repairs on other bridges.

**Topeka, Kan.**—Bids will be received Mar. 21, 5 P. M., for extension of Melan Bridge.—C. B. Burge, City Clerk.

**Forks, N. Y.**—Bids will be received Mar. 19, 3 P. M., for construction of concrete and steel girder bridges across Scajaquada Creek. Alois Schiesel, Township Clerk. G. E. Diehl, 575 Ellicott Square, Buffalo, Engineer.

**Bryan, O.**—Bids will be received Apr. 4, 1 P. M., for construction of several reinforced concrete sub and superstructures of bridges.—R. H. Weaver, Auditor, Williams County.

**Norwalk, O.**—Bids will be received Mar. 21, 10:30 A. M., for construction of four bridges.—J. E. Smith, County Auditor.

**Meadville, Pa.**—County Commissioners are planning erection of bridge over French Creek in Mead ave.

**Tacoma, Wash.**—City Engineer W. C. Raleigh is urging necessity of making early provision for construction of steel bridge across Puyallup River, thus affording a direct means of reaching Milwaukee railroads' terminals.

**Milwaukee, Wis.**—Plans are being prepared by City Engineer Chas. J. Poetsch for repairing 16th st. viaduct.

#### MISCELLANEOUS

**Anniston, Ala.**—L. H. Kaplan has willed city \$100,000 for establishment of public hospital.

**Morris, Ill.**—Aetna Engineering Bureau, Consulting Engineers, 125 La Salle st., Chicago, have been retained to prepare plans for approximately \$150,000 worth of public improvements.

**Naperville, Ill.**—Erection of city hall is being considered.

**Cedar Rapids, Ia.**—Bids will be received Mar. 25, 10 A. M., for erection of caretaker's house in Ellis Park.—L. J. Storey, City Clerk.

**Hancock, Mich.**—Citizens will vote on \$8,000 bonds for erection of sanitarium for indigents.

**Norwich, N. Y.**—Movement has been started to have the Board of Trustees of village take action to adopt new system of numbering streets.

**Tulsa, Okla.**—Citizens have voted \$25,000 bonds for incinerating plant.

**Beaver Falls, Pa.**—Council is considering purchase of two one-horse 300-gallon wagon for use in collecting garbage.

**Portsmouth, Va.**—Council is considering establishment of public dock.

**Tacoma, Wash.**—Council has passed ordinance making metallic garbage cans compulsory.

#### CONTRACTS AWARDED

**Rockville, Conn.**—Street sprinkling for year, to C. A. Davis and Hugh Kernan.

**Winnipeg, Man., Can.**—Furnishing 25,000 bbls. cement, bids opened Feb. 21, to W. P. Lee, city, 64.06c. per 100 lbs.

## PROPOSALS

### STORAGE RESERVOIR

#### Notice to Contractors

Fort Collins, Col.

Sealed proposals will be received by the City of Fort Collins, Col., for the construction of a storage reservoir on Bingham Hill, a distance of six (6) miles from Fort Collins, until 12 o'clock noon, April 14, 1910. The capacity of the reservoir is to be five million United States gallons. It will have concrete sides and bottom and either concrete or frame roof. The work will include connections to be made to the city's present supply pipe, and bids should include all connections, valves, washout pipes, etc., for the complete price of the work. Bids are requested on the basis of the plans and specifications for the construction prepared by the City Engineer and now on file in the office of the undersigned, and also on the basis of independent plans and specifications to be furnished by the bidder.

The right to reject any and all bids is reserved.

A certified check in the sum of five hundred (\$500) dollars, payable to the order of the City Treasurer, to insure compliance, if bid is accepted, must accompany the bid.

(11-12) ROBT. S. FEDDER,  
City Clerk.

### MATERIAL FOR WATER WORKS

Miles, Tex.

Bids will be received by the Mayor and City Council at Miles, Tex., and by them publicly opened on Friday, April 1, 1910, for the purchase by the city of all the material required in the construction of a system of water works, being approximately 11,500 ft. 4 in., 3,000 ft. 6 in., 35 fire hydrants, 11 valves, one 350-gal. Triplex pump, one air compressor, power driven, one 50 h. p. gasoline engine. Specifications can be had by addressing

O'NEIL ENGINEERING CO.,  
Dallas, Tex.

### BRIDGE

Harrisonburg, La.

The Police Jury of Catahoula Parish will receive bids until noon, Monday, April 4, 1910, for the repair of Bayou Louis Bridge.

The Police Jury reserves the right to reject any and all bids. For further information apply to

H. W. BETHARD,  
Secretary of the Police Jury.

### WATER, SEWERAGE, ELECTRIC LIGHT AND POWER FRANCHISE FOR SALE

Williamsburg, Va.

Franchise for water, sewerage and electric light and power systems in the City of Williamsburg, Va., for sale.

Bids should be addressed to John L. Mercer, Chairman of the Water Committee, Williamsburg, Va., and will be opened at 12 noon March 23, 1910, in the Council Chambers at Williamsburg, Va. Right is reserved to reject any or all bids.

JOHN L. MERCER,  
Williamsburg, Va.

### GARBAGE AND ASH DISPOSAL, ETC.

Office of the Commissioners,

District of Columbia.

Washington, March 2, 1910.

Sealed proposals will be received at this office until 2 o'clock p. m., on Wednesday, March 23, 1910, for the collection and disposal of ashes, garbage, dead animals, night soil, and miscellaneous refuse in the District of Columbia, and for the removal of ashes and refuse from buildings under the control of the Commissioners, for periods of one, three and five years. Specifications, blank forms of proposal, and all necessary information may be obtained at the office of the Superintendent of Street Cleaning, Room 329, District Building.

CUNO H. RUDOLPH,  
JOHN A. JOHNSTON,  
WILLIAM V. JUDSON,  
Commissioners,

**WANTED**—Position as superintendent of Water Department; have had experience in reorganization of departments, and in installation and operation of pressure filters; recommendation from last employers; private water company and vicinity of Philadelphia preferred. Address 10A, Municipal Journal and Engineer. (11-13)